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ABSTRACT

A hearing was held on Senate Bill 335, the Emerging Telecommunications Technologies Act of 1993, a bill that requires the federal government to transfer 200 megahertz of spectrum to the Federal Communications Commission (FCC) for new technologies. Integral to this measure, a bipartisan effort, is a provision that will allow the FCC to use competitive bidding on a trial basis to assign licenses for use of up to 30 megahertz of the spectrum. The shortage of available spectrum and the potential of new spectrum-based technologies are the catalysts for this bill. Opening statements were presented by Senators Burns, Gorton, Hollings, Inouye, and McCain. The following witnesses addressed the issues involved in the use of the spectrum and auctioning its use: (1) Robert S. Foosaner, of Fleet Call, Inc.; (2) Edward O. Fritts, of the National Association of Broadcasters; (3) Jay Kitchen, of the National Association of Business and Educational Radio; (4) Phillip C. Nelson, of the Rural Telephone Coalition; (5) Wayne Perry, of McCaw Cellular Communications, Inc.; and (6) Thomas P. Stanley, of the FCC. An appendix contains prepared statements from other associations and interested individuals. (SLD)

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ED 360 951

S. HRG. 103-53

S. 335, THE EMERGING TELECOMMUNICATIONS TECHNOLOGIES ACT OF 1993

HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

FIRST SESSION

MARCH 17, 1993

Printed for the use of the Committee on Commerce, Science, and Transportation

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S. 335, THE EMERGING TELECOMMUNICATIONS TECHNOLOGIES ACT OF 1993

WEDNESDAY, MARCH 17, 1993

U.S. SENATE
SUBCOMMITTEE ON COMMUNICATIONS OF THE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room SR–253 of the Russell Senate Office Building, Hon. Daniel K. Inouye (chairman of the subcommittee) presiding.

Staff members assigned to this hearing: Patrick H. Windhausen, staff counsel, and Antoinette D. Cook, senior counsel; and Regina M. Keeney, minority senior staff counsel, and Mary P. McManus, minority staff counsel.

OPENING STATEMENT OF SENATOR INOUYE

Senator INOUYE. This morning, we will examine S. 335, the Emerging Telecommunications Technologies Act of 1993. This bill is a bipartisan effort, similar to S. 218, that was considered by this committee last Congress.

This bill requires the Federal Government to transfer 200 megahertz of spectrum to the Federal Communications Commission for new technologies. The bill is cosponsored by Senators Stevens, Danforth, Kerry, Burns, Hollings, and Feingold.

Integral to this measure is a provision worked out between myself and my friend from Alaska concerning auctions. This provision will allow the FCC to use competitive bidding on a trial basis to assign licenses to use up to 30 megahertz of the spectrum. I am pleased to note that the administration has endorsed the principle of auctions, and I look forward to working with the new administration on this issue.

This morning, we will examine the benefits of these proposals, and ask the witnesses for their comments on the important measure.

As we all know, the spectrum is a valuable and limited natural resource. Technology has provided numerous ways of gaining benefits from the spectrum, yet we are limited by the shortage of available spectrum.

Today, there are so many applications at the FCC for the remaining available spectrum that the demand simply cannot be satisfied, nor can the potential benefits be realized. The shortage of available spectrum and the potential of new spectrum-based technologies are the catalysts for this bill. Most observers agree a partial resolution to the problem is to make the Federal Government

use the spectrum more efficiently in order to free up more spectrum for the private sector.

It is not the intention of this bill to downgrade any of the Government's essential services. We recognize that some of the Government's frequencies must remain free of interference for defense, emergency, or public safety purposes. However, we must also recognize that some of the Government frequencies can be put to more practical and efficient use by the commercial sector.

This morning's hearing will reexamine the need to transfer spectrum from the Federal Government to the FCC to make it available for new technology. This bill has been modified slightly from last Congress to accommodate the concerns raised by the amateur radio industry, small telephone companies, and public safety users.

I also note that I have worked with the Defense Department and will continue to work with them to make certain that they do not oppose this measure.

The spectrum auction provisions of this bill are nearly identical to the provisions considered by this subcommittee at a hearing in October 1991. The limited trial of competitive bidding has been designed as an alternative to the lengthy comparative hearing process and the unpredictable lottery process.

Auctions may alleviate many of the administrative burdens associated with the licensing process, and may help to speed service to the public. Auctions may also allow the Government and the American public to receive some of the value of making this public asset available to the private sector. The licenses assigned by the competitive bidding will still be subject to the same public interest regulations of the FCC as any other licensee.

For all these reasons, I believe that a trial of spectrum auction is warranted at this time.

I want to thank all the panelists today for their assistance, and look forward to the testimony.

Mr. Chairman, your comments, please.

OPENING STATEMENT OF SENATOR HOLLINGS

The CHAIRMAN. I am pleased that the committee is holding this hearing. As a cosponsor of S. 335, I look forward to working with other committee members and the administration on this bill.

I am a long-time cosponsor of the spectrum reallocation portions of this bill. I support the introduction of new technologies and always have sought ways to remove barriers to entry into new communications markets. The Federal Government needs to use its spectrum more efficiently and the commercial sector needs access to more spectrum if the United States is to remain competitive in the global economy.

In the past, I have had reservations about spectrum auctions. I believe it is essential that qualified people be given the right to use the spectrum. However, we need to find some way to break the logjam at the FCC with regard to assigning communications licenses. The comparative hearing process is too time consuming and thus an inefficient way of encouraging new spectrum uses. Lotteries simply are unfair, as they allow unqualified speculators to apply for licenses and then sell them to the highest bidder. If an auction

is going to take place, the Government may as well hold the auction so the revenues can benefit the public.

For these reasons, I am willing to go along with the auction trial put forth in S. 335. However, I remain firmly committed to my belief that the spectrum is a public resource and must always remain within the public domain—subject to the rights and obligations imposed by the FCC.

I look forward to the testimony today on this important legislation.

Thank you, Mr. Chairman.

Senator INOUYE. Thank you, Mr. Chairman, I would like to call upon the moving force of this measure, the Senator from Alaska. Do you have any comments to make?

Senator STEVENS. Mr. Chairman, I am grateful to you for your statement and I very much appreciate the letter from Secretary Brown. I would yield to my colleagues here for their opening statements.

Senator INOUYE. Senator McCain.

OPENING STATEMENT OF SENATOR McCAIN

Senator MCCAIN. Thank you, Mr. Chairman.

As you noted in your opening statement, we went through this at some length last year, and I believe that there is more enthusiasm this year, speaking for myself and others I have talked to.

We are talking about revenue-raising measures, such as freezing military pay, taxing the benefits of senior citizens, and other very wrenching measures in order to try to bring the deficit under control. All of us in this body are aware of the urgency of that significant problem. And if auctioning of the spectrum, as is envisioned by you and my friend from Alaska, is a way of raising significant revenues, I believe it is something that we should probably move on relatively soon.

It is an important part of the President's budget proposal, and I think it would be of some significance if we turned down this relatively painless way of raising significant revenues, and would not bode well for action on other areas of the budget that are so important for us to address in the weeks and months ahead.

So, speaking for myself, I am much more committed than I was last year, given the changed circumstances. And I do not think we should forget that the spectrum is owned by the public, and we should treat it as such.

And I thank the chairman.

Senator INOUYE. Well, I thank my friend from Arizona, and I wish to assure you that I am prepared to expeditiously report this measure out, if that is the wish of the subcommittee.

Senator Burns.

OPENING STATEMENT OF SENATOR BURNS

Senator BURNS. Thank you, Mr. Chairman.

I want to congratulate you and Senator Stevens for working out this compromise. I think you have done yeoman's work here in coming to a bill which I think we can all live with. And I would agree with my friend from Arizona that there is a great deal more enthusiasm this year than there was just a year ago.

It seemed like the appetite for new spectrum space is not one that is going to be likely to be satisfied anytime soon. But I think we have to look at our competitive position in the world when it comes to these kinds of issues. The Pacific Rim and European countries have recognized the value of spectrum communications infrastructure modernization long before we got a hold of it or realized that we needed to do some things here to become more competitive.

These foreign competitors are setting aside large pieces of spectrum used by companies developing new communications technologies. But, meanwhile, here in America, the current system, with its protracted administrative procedures and inflexible regulations, will stifle and retard the full development of radio spectrum, which is an essential element of our Nation's information infrastructure. And, of course, it is a tremendously important national asset.

As an original cosponsor of S. 335, I am supportive of the efforts to lay the groundwork for spectrum reform by one, transferring 200 megahertz of spectrum to the public from the public to private use, establishing a spectrum reserve and initiating a competitive bidding situation.

And let me say that I, like the Clinton administration, favor the expansion of the competitive bidding provision. I believe the auctioning authority should be permanent and not experimental, as is outlined in the Secretary of Commerce's letter to this committee this morning, of which Senator Stevens has made part of the record.

There are numerous benefits to be realized through this competitive bidding. The public, rather than the private, will realize economic gain. Of course, we know the Senator from Arizona has touched on deficit reduction and, of course, more rapid delivery of services. And increased spectrum assignment efficiency and equity, I think, can be gained through this.

So, I would just ask unanimous consent that my full statement be made a part of the record, and we listen to our witnesses this morning on this issue. And I want to thank you and congratulate you for your leadership in this area.

Senator INOUYE. Without objection, your full statement will be made part of the record.

[The prepared statement of Senator Burns follows:]

PREPARED STATEMENT OF SENATOR BURNS

Mr. Chairman, I am pleased to be here today as the Communications Subcommittee takes its first concrete step of the 103d Congress in building a national information infrastructure to provide economic and social security for America in the 21st century.

Today's hearing deals with an essential—but often overlooked—component of a national information infrastructure—wireless infrastructure.

The wireless infrastructure, of course, is on electromagnetic spectrum.

Electromagnetic spectrum is a most valuable natural resource vital to all communications services.

Today, because of new communications services and technologies, there is an ever increasing demand for spectrum.

The appetite for new spectrum space is not likely to be satisfied any time soon.

Cellular phones, satellite dishes, wireless personal communications networks, digital radio, high definition television, air phone and new cutting edge communications technologies yet to be discovered will create even greater demand for spectrum.

The limited amount of available spectrum raises serious concerns about the U.S. competitiveness posture.

Pacific Rim and European countries have recognized the value of spectrum in communications infrastructure modernization. These foreign competitors are setting aside large pieces of spectrum for use by companies developing new communications technologies.

Meanwhile, here in America, the current system with its protracted administrative procedures and inflexible regulation will stifle and retard the full development of the radio spectrum, which is an essential element of our Nation's information structure and an important national asset.

As an original cosponsor of S. 335, I am supportive of efforts to lay the groundwork for spectrum reform by (1) transferring 200 megahertz of spectrum from public to private sector use; (2) establishing a spectrum reserve; and (3) initiating competitive bidding.

Let me say that I, like the Clinton administration, favor an expansion of the competitive bidding provision. I believe the auctioning authority should be permanent—not experimental.

Three are numerous benefits that would be realized through competitive bidding: (1) public, rather than private, realization of economic gain; (2) deficit reduction; (3) more rapid delivery of services; and (4) increased spectrum assignment, efficiency, and equity.

Moreover, we might also consider setting aside a portion of the revenues generated through competitive bidding to establish a National Information Infrastructure Trust Fund to finance rural, educational, health care, and telecommuting applications of telecommmunications technologies.

I believe we can adequately address the "deep pockets," public safety, and rural concerns raised by those opposed to competitive bidding.

It is my great hope and desire that we can work constructively with the administration in crafting a compromise auctioning provision in the bill acceptable to you, Mr. Chairman, and Senator Stevens, as well as the House and the Clinton administration—I think we can find middle ground.

Thank you, Mr. Chairman and congratulations on your leadership in bringing this critical infrastructure issue to the committee's attention.

Senator INOUYE. And, without objection, the letter from the Secretary of Commerce, Mr. Brown, dated March 15, 1993, relating to S. 335, will be made part of the record at this juncture.

[The information referred to follows:]

LETTER FROM RONALD H. BROWN, SECRETARY OF COMMERCE

MARCH 15, 1993.

The Honorable DANIEL K. INOUYE,
U.S. Senate,
Washington, DC 20510

DEAR MR. CHAIRMAN: I welcome this opportunity to submit for the record in this hearing the views of the Department of Commerce on S. 335, the Emerging Telecommunications Technologies Act of 1993. This bill would require the transfer of 200 megahertz (MHz) of spectrum now used by Federal Government agencies to the jurisdiction of the Federal Communications Commission (FCC) for assignment to non-Federal users. The bill would also authorize the FCC to conduct a test of "spectrum auctions," that is, a competitive bidding procedure, to assign new licenses for no more than 30 MHz over 3 years.

We applaud your efforts, as well as those of Senator Stevens, the bill's other sponsors, and the members of the subcommittee, in taking an active interest in these issues and supporting efforts to encourage development of new radio-based technologies and services. As you stated in introducing this bill, wireless communications are becoming essential to our "fast-paced, on the move society." Yet it is often difficult for firms to obtain spectrum to provide services to the people who want and need them. Moreover, as you note, the availability of spectrum affects directly the ability of U.S. telecommunications firms to compete globally. By making spectrum available for services based on new technologies and be reforming the current FCC assignment process, the actions contemplated in this bill will make important contributions toward serving the needs of the American people and enhancing U.S. economic competitiveness.

The Department supports the goals of both the reallocation and competitive bidding components of S. 335. With respect to the former, we do have some suggested

changes which are included in the attachment to this letter. While it will not be a trivial task to transfer an amount of spectrum of the magnitude contemplated in the bill from Federal agency users to non-Federal users, I am convinced that this is a sound policy and am committed to implementing it in an efficient and equitable fashion.

The Department also strongly supports the provisions authorizing the FCc to use competitive bidding to assign some new spectrum licenses. A properly structured competitive bidding system would serve the public interest by addressing several public policy objectives, through:

- *Improving the current FCC licensing process for private sector spectrum users.* The FCC currently relies on lotteries, which are arbitrary and have encouraged speculators, and on comparative hearings, which are costly, time consuming, and provide little basis from which to choose licensees.
- *Encouraging efficient use of a valuable resource.* Assignments would reflect the economic value to a user, as expressed by its willingness to pay. The Federal Government often uses competitive bidding to award rights to other valuable public resources, such as timber sales, and oil and gas drilling permits.
- *Helping to reduce the Federal deficit.* The President's economic growth package estimates that competitive bidding for some spectrum licenses could raise about $4.4 billion in revenues over 4 years to reduce the deficit. At a time when all citizens are being asked to make greater contributions in order to address the deficit problem and get our economy on a sound footing again, it would be appropriate for taxpayers to realize some benefit from the commercial use of this national resource.
- *Protecting the legitimate needs of entrepreneurs, new entrants, and nonprofit and other groups whose continued access to spectrum is in the public interest.* A competitive bidding system can be designed to provide entrepreneurs and new entrants to spectrum-based industries with direct access to spectrum licenses, rather than indirect access through secondary markets. It can also be designed to provide for the needs of nonprofit and other spectrum users whose use of the spectrum serves important, if not profitmaking, public service purposes.
- *Providing funds to offset costs incurred by the Federal Government in transferring spectrum.* Federal Government spectrum users will incur costs in replacing or modifying radio communications equipment as part of the transfer required by this bill. Competitive bidding could provide a source of funds to cover these costs.

S. 335 goes a long way to meeting these important public policy objectives. However, we have some suggested changes to the bill as presently drafted that we think would improve it. One change we would like to see is to grant the FCC authority to use competitive bidding on a permanent basis and not as a limited, experimental test. A test could restrain the FCC's ability to license new services, and could delay the realization of the benefits of competitive bidding for several years. This problem is also found in the provision of the bill that requires the Appropriations Committee annually to reauthorize the FCc to use competitive bidding. The uncertainty created by the need to obtain an annual reauthorization could interfere with the FCC's ability to manage the spectrum resource efficiently and to plan for an orderly assignment of licenses for new services.

Moreover, we strongly believe that if a test were to be undertaken, it should not be limited to 30 MHz of spectrum. Such a test may not be sufficient for the FCC to assign all of the licenses in a specified service, such as a personal communications service, that might be subject to competitive bidding. This could distort the assignment process, delay the issuance of licenses for valuable new services, and not provide as useful information on competitive bidding as a broader, more meaningful experiment. At a minimum, we believe any initial authorization should be 150 to 200 MHz.

Again, thank you for allowing me the opportunity to submit the views of the Department of Commerce for the record. We would be pleased to provide a further explanation of our views at your request. We look forward to working with the subcommittee as we together move ahead in this critical area of managing the Nation's radio spectrum resource.

The Office of Management and Budget has advised that there is no objection to the transmittal of this letter from the standpoint of the administration's program.

Sincerely,

RONALD H. BROWN,
Secretary of the Department of Commerce.

ADDITIONAL PROPOSED CHANGES OF THE DEPARTMENT OF COMMERCE TO S. 335

- The bill finds that the Federal Government currently reserves forty percent (40%) of the electromagnetic spectrum for its own use, and that Federal Government licensees underutilize many frequencies. These findings are overstated and should be eliminated. (See §§ 2(1)–2(2))
- The bill should not include special provisions for spectrum used by Federal power agencies. While such agencies require a high level of operational telecommunications reliability, their reliability and cost reimbursement concerns can be accommodated administratively. Other agencies with important safety and security responsibilities, such as the Federal Aviation Administration and the Federal Bureau of Investigation, are not exempt or subject to special provisions, nor should they be. (See § 4(a))
- The bill includes provisions that constrain frequency sharing between Federal and non-Federal users. These constraints are unnecessary and should be removed. If Congress deems frequency-sharing provisions to be necessary, they should be developed not by the FCC alone, but jointly by the FCC and the Department of Commerce, consistent with § 305 of the Communications Act and existing NTIA authority. (See § 4(b)(2)(C))
- The mandatory use of a newly created advisory committee should be deleted from the bill, and replaced with provisions permitting the Secretary of Commerce to use or augment an existing advisory group, the Spectrum Planning Advisory Committee (SPAC), if necessary. A new advisory committee could impose undue administrative burdens and could significantly slow down the reallocation process. At a time when the President is trying to reduce the number of advisory committees, a new one should not be created. (See §4 (d)(2))
- The bill requires the President to withdraw or limit the assignment to any Federal Government station of any frequency of the 30 MHz recommended for immediate reallocation within 3 months of receipt of the Secretary's report. The President should retain discretion regarding the withdrawal or limiting of frequencies. (See § 5(a)(1))
- The bill impinges on the President's prerogatives by limiting his ability to delegate authority to withdraw or substitute frequency assignments. (See § 5(c))
- The bill includes provisions requiring the Secretary of Commerce to identify, within 6 months of enactment, 30 MHz of spectrum for immediate reallocation. There should not be a limit prescribed in law for the amount of spectrum to be identified for expedited reallocation. (See § 4(d)(1)(A))
- The bill should not exempt commercial radio and television broadcast services from competitive bidding. (See § 8(a))
- The rural license program is not necessary to protect rural interests. Generally, spectrum is not scarce in rural areas. Rural telephone companies should have no problem acquiring spectrum through assignment by competitive bidding or in the market subsequent to assignment. (See § 8(b))

Senator INOUYE. And now it is my pleasure to call upon the Chief Engineer of the Office of Engineering and Technology, FCC, Dr. Thomas P. Stanley.

Dr. Stanley.

STATEMENT OF THOMAS P. STANLEY, PH.D., CHIEF ENGINEER, OFFICE OF ENGINEERING AND TECHNOLOGY, FEDERAL COMMUNICATIONS COMMISSION

Dr. STANLEY. Thank you, Mr. Chairman.

Good morning, Mr. Chairman and members of the committee.

My name is Tom Stanley. I am the FCC's Chief Engineer. Chairman James Quello regrets that he will be unable to attend today's hearing, and he has asked me to represent him at this important discussion.

Needless to say, I am delighted to be here to testify in support of S. 335. This bill represents some very important innovative solutions to one of the most acute problems facing the Federal Communications Commission, the scarcity of spectrum in the face of unprecedented demand for radio frequencies.

Virtually all of the spectrum within the FCC's primary jurisdiction has been allocated, and we are doing all we can to ensure that the spectrum we have allocated is done so in an efficient manner.

One of the most important recent steps we have taken to make room for emerging technologies is a reallocation of over 200 megahertz of the microwave spectrum near 2 gigahertz. This action will provide a home, eventually, for personal communication services and other emerging services—for example, satellite-based mobile services, should we decide to authorize them.

In addition, whenever we do make spectrum allocations, we generally require the use of any of several spectrum-efficient technologies. In the cellular arena, we have permitted and even encouraged cellular providers to convert from analog to digital technology, a step that should provide at least three times the efficiency in the use of the spectrum.

In our high-definition TV proceeding, we are proposing to give birth to a new generation of television in the spectrum currently allocated to television broadcasting, without displacing the current TV broadcast service.

However, once these and other steps have been fully implemented, there will be little more that the FCC can do to free up additional spectrum. The demand for spectrum is evidenced by a host of proposals filed by persons desiring to provide services like personal communication services, wireless data transmission, advanced paging, low-Earth orbit satellites, and digital audio broadcast, to name just a few.

While we may be able to accommodate some of these services in the existing spectrum, the increasing mobility of the American population and the ever-growing demand for higher bandwidth information by persons who are on the move lead us to conclude that we will need additional spectrum in the future.

S. 335 represents an important step in the move toward a seamless, wireless world. Freeing up 200 megahertz of Government spectrum for commercial use will, in my view, result in a big payoff for the United States, particularly as other countries; namely Japan and those of the European Community, make large blocks of spectrum available for the development of commercial systems.

While S. 335, as currently drafted, will provide an incalculable boost for American industry, technology, and competitiveness, there are several ideas as to how that bill could be altered, perhaps, to accomplish even more.

While 200 megahertz may seem like a lot of spectrum, the demand for spectrum for commercial purposes will continue to grow unabated. The Federal Government will probably make more efficient use out of its spectrum through increased sharing and through the use of the new technologies we are requiring the private sector to implement. Therefore, it may be well possible to reallocate even more spectrum over time without any significant adverse impact on Federal Government operations.

Another concern relates to the period over which the spectrum transfer to commercial usage would occur. The prohibition on the use of a substantial portion of this much-needed spectrum for at least 10 years could impede our ability to meet already existing de-

mands for spectrum represented by all the emerging technologies and, in the process, slow down the creation of jobs.

I support the subcommittee's effort to authorize a competitive bidding experiment. Our experience with comparative hearings and lotteries demonstrates that improvements can be made to our existing licensing schemes. Comparative hearings are slow and are of limited utility in picking licenses for services where one qualified would-be provider is not clearly better than another.

While lotteries would seem to provide a fair method of selecting from qualified applicants, they have historically become vehicles for speculation. Through experience, we recognize that there are some problems with lotteries. The Commission is currently reviewing the lottery process, with the goal of eliminating the potential for delay and speculative applications.

Competitive bidding could become another viable method to award certain licenses. In implementing a competitive bidding process, the FCC must account for the advantages and disadvantages of the competitive bidding process. There are several potential advantages to competitive bidding.

One advantage is that the winning bidder is likely to be keenly interested in developing the most efficient and effective, and probably, the most prompt use of the spectrum.

Second, in the long term, competitive bidding could involve fewer FCC resources, thus allowing us to devote more resources to spectrum allocation, testing, inspecting equipment, and enforcing any number of our other statutory obligations.

Third, competitive bidding could raise significant revenues for the Treasury.

Last, but not least, in terms of revenues, there are certain potential disadvantages to competitive bidding as well. If addressed properly, these disadvantages could probably be obviated by carefully tailored safeguards.

With respect to the concentration of ownership, some of the past proposals to implement competitive bidding have involved auctioning a block of spectrum and letting the highest bidder determine what purpose it should be used for. A key feature of the auction authority granted in S. 335 is that it preserves the role of the FCC in making an allocation for a specific service and setting the technical standards for that service. Thus, the FCC will control how and for what purposes particular blocks of spectrum will be used.

A related concern over the use of competitive bidding is that it might limit the ability of small businesses and new entrants to obtain spectrum. There are several ways to prevent that from happening. First, payment for the successful bid could be deferred or spread out over a number of years. Or, in lieu of paying some or all of the bid, a royalty scheme could probably be devised to allow the winning bidder to compensate the Treasury over a period of years for the spectrum.

Another possible approach might be to provide for loans to small businesses at favorable terms. A further possibility would be to set aside some part of the particular allocation for small businesses or to reward innovators who develop a new service, or for local businesses with a demonstrated presence in the locality. Spectrum so set aside could perhaps be auctioned separately, with only such en-

tities being eligible to bid on it, or certain parts of the spectrum could be allocated by some other selection method designed to ensure the equitable distribution of the frequencies.

With competitive bidding, as with any of the traditional methods of assigning spectrum, there is the potential that a successful licensee could sell the spectrum for profit or, alternatively, sit on the spectrum and not develop it. While I think those possibilities are less likely to materialize with the use of auctions, it is not out of the question that they could occur. To prevent such occurrences, the FCC could exercise its public interest authority to enact loading or trafficking rules as appropriate, and the statute could empower the Commission to require performance bonds in appropriate cases.

Since different uses of the spectrum will require different build-out periods, I do not believe that Congress should enact blanket loading or trafficking rules. Rather, the Commission should be allowed to enact whatever customary construction permits and trafficking rules are appropriate for each use of the spectrum that is auctioned.

Finally, the requirement that the FCC's authority to employ competitive bidding procedure be renewed annually in its appropriation may be unduly restrictive. While it is understandable that the subcommittee would want to review the Commission's use of auctions, the requirement for annual reauthorization may provide too much uncertainty, and in fact, could preclude some licensees from utilizing the spectrum won at auction throughout a full license term.

In closing, I would like to reiterate my belief that auctions can be tailored to work as a fair, efficient, and equitable method of assigning licenses. While I may have some reservations about using competitive bidding procedures to assign licenses in the mass media services area, to which special public trusteeship obligations attach, I believe that it maybe worth experimenting with auctions for certain common carrier services or private radio services. For example, the Commission is seeking comment on implications of auctions in the PCS arena.

Given the record of problems with existing hearing procedures and lottery methods, competitive bidding on a trial basis should be explored. Perhaps this procedure can facilitate the selection of qualified applicants and ensure that all allocated spectrum is developed faster and more efficiently. It could also allow the Commission to devote more resources to tasks other than trying to choose licensees, not to mention producing a significant amount of revenue for the Treasury.

I thank you very much, Mr. Chairman, Senators, for your attention, and I would be happy to answer any questions.

[The prepared statement of Dr. Stanley follows:]

PREPARED STATEMENT OF THOMAS P. STANLEY

Good morning, Mr. Chairman and members of the Subcommittee. I am delighted to be here to testify in support of S. 335, the Emerging Telecommunications Technologies Act of 1993. This bill presents some very innovative solutions to one of the most acute problems facing the FCC—a scarcity of spectrum in the face of an unprecedented demand for radio frequencies.

Virtually all of the spectrum within the FCC's primary jurisdiction has been allocated1 and we are doing all we can to ensure that the spectrum we have allocated is used in an efficient manner. One of the most important recent steps we have taken to make room for emerging technologies is a reallocation of 220 MHz

of the microwave spectrum near 2 GHz. This action will provide a home for Personal Communications Services and other emerging technologies, e.g. satellite PCS, should we decide to authorize them.

In addition, whenever we make spectrum allocations, we generally require the use of any of several spectrum-efficient technologies. Thus, in our recent decision to allocate the spectrum between 220 and 222 MHz for narrowband private radio services, we required the use of narrowband equipment. We are also undertaking a major initiative to reform the private radio bands below 512 MHz. There, we proposed to split existing channels and to require the use of a number of spectrum-efficient techniques.

In the cellular arena, we have permitted and even encouraged cellular providers to convert from analog to digital technology—a step which will provide at least three times more efficient use of the spectrum. In our high definition television proceeding, we are proposing to give birth to a new generation of television in the spectrum currently allocated to conventional television without displacing existing TV broadcasts. Eventually, when conventional television becomes a thing of the past, we expect to be able to use a portion of the spectrum now allocated to NTSC channels for new purposes.

However, once these and other steps have been fully implemented, there will be little more the FCC can do to free up additional spectrum. The demand for spectrum is evidenced by the host of proposals filed by persons or entities desiring to provide services like personal communications, wireless data transmission, advanced paging, low earth orbit satellites, and digital audio broadcasting, to name but some of the most prominent. While we may be able to accommodate some of these services in existing spectrum, the increasing mobility of the American population and the ever-growing demand for higher bandwidth information by persons who are "on the move" lead us to conclude that we will need additional spectrum in the future. Even the push to develop a sophisticated telecommunications infrastructure will require wireless links from the mobile user to a fiber-optic or copper backbone network. Indeed, a possible way to develop quickly a high tech telecommunications infrastructure is to grow the infrastructure from the bottom up. Much of the current discussion on infrastructure calls for what might be called traditional, "top down," wideband networks, serving research and development efforts, libraries and educational purposes. PCS could offer an alternative approach -a "bottom-up," commercially based one. It would use already growing, successful ventures such as cellular and SMR operations as well as-evolving PCS entrepreneurial technologies to connect the user to one of the telecommunications backbones already in place—whether it be provided by a telephone company, a cable company, or even a utility. This more commercially-oriented approach may provide a greater and quicker pay-off in terms of jobs and competitiveness than the traditional one, but it will require more spectrum than is currently allocated to wireless communications.

S. 335 represents an important step in the move toward a seamless, wireless world. Freeing up 200 MHz of government spectrum for commercial use will, in my view, result in a big payback for the United States, particularly as other countries, viz., Japan and those of the European Community, make large blocks of spectrum available for development of commercial systems.

While S.335, as currently drafted, will provide an incalculable boost to American industry, technology, and competitiveness, there are several ideas as to how that bill could be altered to accomplish even more. My first concern centers on the amount of spectrum that is proposed for reallocation. While 200 MHz may seem like a lot of spectrum, the demand for spectrum for commercial purposes will continue to grow unabated. The Federal Government could probably make more efficient use out of its spectrum through increased sharing or through the use of the new technologies we are requiring the private sector to implement. Therefore, it may well be possible to reallocate even more spectrum over time without any significant adverse impact on Government operations. Perhaps the Subcommittee could explore whether a larger reallocation would be possible—either at this time, or possibly in the future.

In a similar vein, language should be inserted in the bill encouraging the Secretary of Commerce and the Chairman of the Federal Communications Commission to continue the current process of negotiating voluntary transfers of spectrum from the jurisdiction of the Government to that of the FCC as well as to encourage greater sharing of Government spectrum by private parties. Statutory mandate should not be the only means to satisfy the spectrum need of the Federal Government and of the private sector.

A second concern relates to the period over which the spectrum transfer to commercial usage would occur. The prohibition on the use of a substantial portion of this much-needed spectrum for at least ten years could impede our ability to meet

the already existing demands for spectrum presented by all of the emerging technologies and, in the process, slow down the creation of jobs.

A third concern relates to the authority given to the Executive Branch to recover frequencies which have been released by the Commerce Department. That provision could provide too much uncertainty for businesses to commit the substantial resources that are necessary to develop the reallocated spectrum.

I support the Subcommittee's effort to authorize a competitive bidding experiment. Our experience with comparative hearings and with lotteries demonstrates that improvements can be made to our licensing schemes. Comparative hearings are slow and are of limited utility in picking licenses for services where one qualified would-be service provider is not clearly better than another. For example, if we were awarding a license to provide mobile data services, how can we determine that the internal communication needs of one national shipping company are greater than those of another? Comparative hearings as a licensing -process have certain limitations such as time and expense, which could make them unsuitable for certain types of services.

While lotteries would seem to provide a fair method of selecting from among qualified applicants, they have historically become vehicles for speculation. Through experience, we recognize that there are some problems with lotteries. The Commission is currently reviewing the lottery process with the goal of eliminating the potential for delay and speculative applications.

Competitive bidding could become another viable method to award certain licenses. In implementing a competitive bidding process, the FCC must account for the disadvantages and advantages of competitive bidding.

There are several potential advantages to competitive bidding. One advantage is that the winning bidder is likely to be keenly interested in developing the most efficient and effective (and most prompt) use of the spectrum. Second, in the long term, competitive bidding could involve fewer Commission resources, thus allowing us to devote more resources to spectrum allocation, testing and inspecting equipment, or enforcing any number of other statutory obligations. Third, competitive bidding could raise significant new revenues for the Treasury. The President's economic growth package estimates that the use of competitive bidding could generate over $4 billion in revenue during fiscal years 1995-1998 alone.

There are potential disadvantages to competitive bidding as well. If addressed properly, these disadvantages could probably be obviated by carefully tailored safeguards. For example, to take account of concerns that an auction process could result in the concentration of too much spectrum in certain licensees' hands, safeguards could be established to limit concentration of ownership, to provide for a diversity of licensees, to promote the participation of small businesses, to prohibit warehousing, and the like.

With respect to concentration of ownership, some of the past proposals to implement competitive bidding have involved auctioning a block of spectrum and letting the highest bidder use it for whatever purpose he or she desired. One key feature of the auction authority granted in S.335 is that it preserves the role of the FCC in making an allocation for a specific service and setting the technical standards for that service. Thus, the FCC will control how and for what purposes particular blocks of spectrum will be used.

A related concern over the use of competitive bidding is that it might limit the ability of small businesses and new entrants to obtain spectrum. There are several ways to prevent that from happening. First, payment for the successful bid could be deferred or spread out over a number of years. Or, in lieu of paying some or all of the bid, a royalty scheme could probably be devised to allow the winning bidder to compensate the Treasury over a period of years for the spectrum. Another possible approach might be to provide for loans to small businesses at favorable terms. A further possibility would be to set aside some part of a particular allocation for small businesses, or to reward innovators who developed a new service, or for local businesses with a demonstrated presence in a locality. Spectrum so set aside could perhaps be auctioned separately—with only such entities being eligible to bid on it, or certain parts of the spectrum could be allocated by some other selection method designed to ensure the equitable distribution of frequencies. Those options, as well as any others, should be evaluated as a competitive bidding process is developed.

With competitive bidding, as with any of the traditional methods of assigning spectrum, there is the potential that a successful licensee could either sell the spectrum for profit, or, alternatively, sit on the spectrum and not develop it. While I think those possibilities are less likely to materialize with respect to spectrum that is auctioned, it is not out of the question that they could happen. To prevent such occurrences, the Commission can exercise its public interest authority to enact loading or trafficking rules as appropriate, and the statute could empower the Commis-

sion to require performance bonds in appropriate cases. Since different uses of the spectrum will require different build-out periods, I do not believe the Congress should enact blanket loading or trafficking rules. Rather, the Commission should be allowed to enact whatever customary construction periods or trafficking rules are appropriate for each use of spectrum that is auctioned.

Finally, the requirement that the FCC's authority to employ competitive bidding procedures be renewed annually in its appropriations will may be unduly restrictive. While it is understandable why the Subcommittee would want to review the Commission's use of auctions, the requirement for annual reauthorization may provide too much uncertainty and in fact could preclude some licensees from utilizing spectrum won at auction throughout a full license term. If the Subcommittee is not inclined to grant the Commission permanent authority to conduct competitive bidding, it could require either periodic reports on how the process is working or a reauthorization every three to four years.

In closing, I would like to reiterate my belief that auctions can be tailored to work as a fair, efficient, and equitable method of assigning licenses. While I may have reservations about using competitive bidding procedures to assign licenses in the mass media services to which special "public trusteeship" obligations attach, I believe that it may be worth experimenting with auctions for certain common carrier services or private radio services. For example, the Commission is seeking comment on the implications of auctions in the PCS area.

Given the record of problems with the existing hearing and lottery methods, competitive bidding procedures on a trial basis should be explored. Perhaps this procedure can facilitate the selection of qualified applicants and ensure that allocated spectrum is developed faster and more efficiently. It could also allow the Commission to devote more resources to tasks other than trying to choose licensees, not to mention producing a significant amount of new revenue for the Treasury.

We would be delighted to work with the Subcommittee to try to ensure that S. 335 can be implemented in so as to maximize for the American people the benefits offered by the host of new technologies that are appearing on the horizon.

Thank you. Now, I would be happy to answer any questions you may have.

Senator INOUYE. Thank you very much, Dr. Stanley. From your statement, are you agreeing with those who suggest that the Federal Government is not efficiently utilizing the spectrum?

Dr. STANLEY. It is very hard sitting from where we are at the FCC to make that kind of judgment at a distance. Many of the users of the Federal Government are very different. Having circuits or channels on a standby basis is far more important, for example, for Secret Service and other selected Government missions. Where a comparison can be made, between what the Government is doing and what the civil population is doing, I think the non-Government sector would probably come out currently being more efficiently utilized

Senator INOUYE. We have used a number of 200 MHz. Is that considered reasonable, or should it go up above that or below it?

Dr. STANLEY. My personal view is I think this is really a first step. A more fluid dynamic process where spectrum is transferred from Government sector to the non-Government sector, as needed, is, I think, critical.

The fact that one-half of the 200 MHz would not come at least until 10 years really is a very high price to pay. It spreads out that utility well into the next century. It is a good step, but I think we can talk of hundreds of MHz being identified as needed currently for use in the non-Government arena: broadcast auxiliary services for HDTV and additional mobile personal communications services. These can pretty easily eat up spectrum by the MHz; so 200 MHz is a decent first step, but it is not enough.

Senator INOUYE. On the matter of auctions, your statement says that you can carefully tailor the specs or regulations to cope with some of the problems such as small business or profitmaking and

such. Is the FCC fully authorized to carefully tailor this process, and is the FCC prepared to do so?

Dr. STANLEY. Very much so. I think the spirit of the legislation itself—and you referred to this in your opening remarks—really indicates that the FCC's existing authority to make decisions is left intact, so basically with the advent of something like an auction or competitive bidding process, the Commission's existing authority to make those kinds of decisions is what it has always been.

In fact, if there are opportunities, if there is a feeling either on the part of Congress or the Commission that extra steps should be taken because auctions perhaps may need some extra protective steps to ensure, against, let us say, warehousing or trafficking, the Commission has all the authority it currently needs to take such steps.

Senator INOUYE. Dr. Stanley, I have other questions I would like to submit to you, if I may, sir.

Senator Stevens.

Senator STEVENS. Dr. Stanley, the bill sets some parameters on this competitive bidding authority. I am grateful to my friend from Hawaii for working this out.

For an experiment, let me first ask you, it would exempt—the bill exempts from competitive bidding license renewals and modifications, Federal, State, and local government entities, amateur operator over the air, television and radio, public safety and radio astronomy services, private radio end-use user licenses, and any other service or assignment that the FCC determines should be exempt.

That last one is very broad, but are there any that we should have specifically excluded from this process of competitive bidding to begin with?

Dr. STANLEY. Do you mean additional?

Senator STEVENS. Are there any you think we should specifically exclude beyond those we have excluded now from competitive bidding?

Dr. STANLEY. No. I think your list actually represents a development over the past several years of particular groups that have felt that their needs cannot be met in an auction process, so I think the list is fairly all-inclusive.

Senator STEVENS. Now, you have not handled lotteries in the past, have you, in the comparative hearings? They are not part of your function at the FCC.

Dr. STANLEY. Strictly speaking, that is correct. Our office generally is involved in the spectrum allocation process, not the licensing process.

Senator STEVENS. It has been my feeling that the hearing process is too expensive and time consuming and lottery involves too many windfalls. Are there any other problems with those two approaches to this subject that we could take out the competitive bidding and those would be the too means the FCC would use? Are there any other problems with existing law that we should note in this hearing?

Dr. STANLEY. Well, let me mention several in particular. I think we are very conscious of the problems in what I will call the fun-

damental hearing aspect that was mentioned initially, and then lotteries.

Lotteries were an attempt to get over some of the problems of hearings, and they brought along their own set of problems. We are about a decade after hearings, or after lotteries have been implemented at the FCC, and they have brought their own host of problems.

We are looking to perhaps either streamlining or improving the process. Specifically for lotteries, it still may well be the principal tool for allocation of or an allotment of licenses, and it is high on our list to look pretty hard as to how it can be improved ourselves—within our own jurisdiction.

Senator STEVENS. You mentioned that the PCS possibility, CBO estimated for us that the PCS licenses could generate $5.2 billion over the next 3 to 5 years. Are you able to give us any kind of a reaction to that? Is that conservative, liberal, on the mark? What would you say about that?

Dr. STANLEY. Based on my own intuition, it is probably a little bit on the conservative side. There have been a series of analyses over the course of the last 3 or 4 years based on analyst estimates as to what a cellular property, if you will, is worth, and scaling back for such a PCS experiment. There has been experience with auctions in New Zealand—also providing extra data.

Each of those have suggested, I will say, roughly what a cellular system could be worth—on the order of anywhere from $1 to $8 billion to, say, $18 billion, so something—and let me call that—these are analyst estimates with lots of purist assumptions. Cutting that down to $5 billion is probably not a bad conservative estimate.

Again, it depends on many factors: the location of the spectrum, the details of the service itself—will people really value personal communication services like they value cellular? These are sort of things that analysts make guesses at, but $4 to $5 billion for something like the equivalent of a cellular amount of spectrum which is, say, a 25 to 30 MHz does not seem outlandish and probably is conservative.

Senator STEVENS. In view of the number of areas that we have protected under this bill from competitive bidding, and I have got to say parenthetically that when my good friend agreed to let us work on the concept of competitive bidding on a test, it was sort like putting your finger into cold water, you know, 30 MHz seemed to be about the size that we might be able to get people to listen to.

It appears to me now, with the nice, warm reception from Secretary Brown and from the administration, that perhaps we ought to think about a broader scope for this experiment.

What I really want to ask, is 30 MHz enough to start with? Should that be broadened now, in view of the support that the concept has which it did not have in the last Congress to 60 or 90? Is 30 enough to really have a test of the system?

Dr. STANLEY. It really depends on what the eventual services are that we use auctions for. Something on the order of personal communications, for example, we have not made the final decisions on that, but we could be talking on the order easily of over 100 MHz,

so if only 30 MHz would be identified for auctions, then it is really not enough for personal communications.

My own personal belief is that is unfortunate, because that is really probably one of the most strongly entrepreneurial types services and it could well benefit from the advent of auctions.

But there are small services. For example, advanced paging on the order of maybe, say, 1, or 2, or 3, or 4 MHz at the most, that we could use auctions for.

Senator STEVENS. I was told that if we wanted to go to the smaller auctions plus, say, testing of the PCS, that the FCC had indicated we would have to have 120. Is that a figure that has come to your attention?

Dr. STANLEY. Yes, sir, that is exactly the figure that you could say seems to fit most of the prime options in front of the Commission currently.

Senator STEVENS. One last statement. In your comments to the chairman, you said there is indications that even more could be allocated to the concept of non-Federal use. Have you got a ballpark on that even more that could be made available?

Dr. STANLEY. No, but I would certainly feel that, say, maybe at least 200 more over the next several years. I would hate to think that more could not be made available to non-Government use. I would hate to think that the 200 MHz and that is it for a significant period of time.

To put this in perspective, just last year, the FCC allocated from microwave use over 200 MHz for a variety of emerging communications technologies, and so 200 in a sense is on the order of what we have already taken steps for for services that I would say are close at hand.

My comment really addresses the future. After the current wave of needs and applications are treated I would hope that the door is still open, say, for Government and non-Government transfer.

Senator STEVENS. I thank you very much. I do not have any more questions, Dr. Stanley.

I do want to indicate, though, to the chairman of the committee that in my judgment if there is going to be these sorts of revenue made available due to actions of the FCC we are going to have to look for find additional money to assure the FCC has the capability to monitor these new services to make sure that we do not have interference with the people we are trying to protect under the language of this bill.

I do not think you could do that with the existing level of support that the FCC has, and this Senator is going to try to find some way to earmark or to channel a portion of that money that comes from the spectrum auction to the FCC so that you can have a better ability to protect the public interest and protect those users out there who currently are expressing a great deal of fear to my office and others that this spectrum analysis or spectrum auction might leave and jeopardy other current present users that we are trying to protect, and so I do hope that we can find that way, Mr. Chairman.

But I thank you very much, Dr. Stanley.

Senator INOUYE. Thank you. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman. Dr. Stanley, how much—under the present legislative proposal, how much revenue do you estimate would be generated over the next 5 years? Do you have an estimate on that?

Dr. STANLEY. We really do not have what I will call an independent estimate. The figure that I think is generally before people is on the order of, say, $4 to $5 billion. We are comfortable with that kind of estimate. It may be on the conservative side.

Senator MCCAIN. What is wrong with the present system besides the fact that it does not generate revenue, Dr. Stanley.

Dr. STANLEY. The current system, which I will largely characterize as either hearings or lotteries is generally time consuming and costly—lotteries in particular, which we have only been doing lotteries for a decade. Lotteries were supposed to cure some of the ills of the hearing process; namely interminable procedures where, say, minute distinctions were debated at some length, but the public's denied use the spectrum, and a great deal of the revenue, let us say, does not end up in sort of direct good social costs.

Lotteries were supposed to cure that. Unfortunately, the cost of participating in a lottery is fairly small and the potential gain is very large, and so it has led to a great deal of speculation which has taxed the FCC's resources greatly.

In fact, a look at, for example, the cellular process indicates that it has gotten worse over the course of a decade in that even in relatively remote areas people seem to be willing to speculate as to winning a license and then turning it in after some period of time, so there are existing flaws in the current system.

Senator MCCAIN. They either turn them in or they sell them, right?

Dr. STANLEY. Well, in rural areas they can turn them in, but there is a market also for MSA's, for cellular MSA and RSA properties.

Senator MCCAIN. Do you have a handle on, roughly speaking, people who have won the lottery who have not chosen to use them but just have sold them to another company or corporation?

Dr. STANLEY. As to price or magnitude?

Senator MCCAIN. Just how many of them.

Dr. STANLEY. I have no idea, sir. We could probably get some of that.

Senator MCCAIN. Is it a significant number?

Dr. STANLEY. I have no way of telling.

Senator MCCAIN. Would you provide that for the record, please?

Dr. STANLEY. Yes, I would be happy to.

[The information referred to follows:]

Commission data indicates that to date a total of 1,585 cellular radio licenses have been issued, 735 to nonwireline carriers and 850 to wireline carriers. Of the total 1,585 licenses issued, 1,113, or approximately 70 percent of the total, were transferred at least one time. The complete breakdown is as follows:

	Nonwireline	Wireline	Total
Licenses	735	850	1,585
Transfers	623	490	1,113
Percent	84.8	57.6	70.2

Thus, despite the Commission's efforts to discourage lottery speculation, most current cellular radio licensees have acquired their licenses by transfers from lottery selectees.

Senator MCCAIN. There is a widespread belief that companies enter into the lotteries simply for the chance of winning with no real proposal to use it, except to turn a profit off of what they receive from the Government.

Dr. STANLEY. I would be happy to look that up, and let me offer an anecdote. People have called up the Commission who evidently have "won a lottery" and wonder where they cash it in. [Laughter.]

So, that is exactly what the process has led to.

Senator MCCAIN. That is exactly my question, and I think it would be helpful if you could supply for the record the numbers of those who receive them who actually use them versus those who have ended up selling them, and I do not know if the information would be available as to the profit margin. That is generally the case in the sales.

Have you seen the letter from Chairman Brown to Chairman Inouye?

Dr. STANLEY. Yes, I have.

Senator MCCAIN. Did you see the part where it said this bill should not exempt commercial radio and television broadcast services from competitive bidding?

Dr. STANLEY. Yes.

Senator MCCAIN. Do you have a position on that, or a view on that?

Dr. STANLEY. Well, as I mentioned, I guess when issues of public trusteeship come up, I think it—you know, auctions are already difficult enough. It is not a pure world, and we are really dealing with giving real licenses to people who are about to use them. To confuse that with the public trusteeship issue I think is perhaps too much to do at this first stage of an experiment.

So, I understand in other parts of the world they do not make these distinctions, and certainly they are talking about auctioning broadcast licenses.

I guess our view is that perhaps this first experiment does not have to go that far, that the entrepreneurial pressures from these mobile communications, these cellular-like services will certainly provide information at least in this first phase as to, is this a good thing to do, is it manageable by the Commission, are there abuses we are not aware of that will surface?

Senator MCCAIN. To be candid, would it not be much more difficult to see this legislation become a reality if that exception were removed?

Dr. STANLEY. That could well be, Senator.

Senator MCCAIN. Finally, Dr. Stanley, how do you envision that we could protect the ability of minorities, less wealthy individuals, companies, or corporations, or others to obtain someplace in the spectrum under this legislation?

Dr. STANLEY. The Commission really has all of its authority to make special cases or exemptions. For example, a set-aside of some sort is the most direct way, a special treatment where particular eligibles, defined by the Commission, would receive this kind of treatment.

One easy answer, I would say to one of the principal faults or disadvantages of the auction process what I call the deep-pockets argument, not that it is an easy answer, is something as straightforward as spreading out the payments over a number of years certainly, which constitutes what is called a Government-backed loan of sorts that is an equalizer to a degree.

That goes very far in leveling or sort of making the pockets equally deep or shallow, however you look at it.

Senator MCCAIN. Envisioning the most optimistic scenario, and that is that this legislation is passed in the next several months, when would you estimate that the FCC would grant the first PCS?

Dr. STANLEY. Via auctions?

Senator MCCAIN. Yes.

Dr. STANLEY. The bill itself gives the Commission 18 months to actually order or implement the auction. That would be put it sometime next year. I would say not too long after that. If we get to making some of the decisions we have to make in personal communications, and there is a series of very difficult decisions there, and that, plus the auction rules themselves, are created, say, roughly a year from now, I would say in 1994 the first auction could be held.

Senator MCCAIN. Thank you very much, Mr. Chairman.

Senator INOUYE. Thank you, Senator.

Senator Burns.

Senator BURNS. Doctor, thanks for your testimony this morning. And I would ask, if you do not think that 200 megahertz is enough to get us started, how would you suggest that we gain more to put it on the market?

I happen to be a proponent of flexible spectrum. I think with the new technologies coming on the market, that radio and television broadcasters have some spectrum that they could use or do other things with. Do you have an opinion on that, on how broadcasters might be permitted to get better use of their spectrum?

Dr. STANLEY. I think in a variety of areas the use of increased flexibility is certainly a good idea. Well, one area where the Commission has acted, in the late 1980's, was the use of cellular. Cellular, when it began in the late seventies, early eighties, was very tightly regulated, very specific rules from a technology point of view and also from operations.

Toward the end of the decade, especially in view of the rapid and successful growth of cellular, the Commission pretty much dropped most of those rules. It basically said, as long as you do not interfere with your neighbors, you can really use that spectrum for alternative services. And it has worked out very well. We have seen the advent of data services.

And so, in that one area, flexibility seems to have been very important.

In the broadcast area, it has been a little more difficult. We have surfaced in the mid-1980's some proceedings that tried to bring additional flexibility to broadcasting. Those did not fare very well. But one example of increased use of the current broadcast spectrum is high-definition TV. Many ideas or plans are surfacing as to what kinds of things can happen if high-definition TV—not if, but—when high-definition TV comes to the United States.

It is an opportunity, perhaps, to do just as you are suggesting, giving broadcasters the ability not just to distribute video programming. You could view a broadcast license as the license to send digital information in a particular geographic area. The TV picture, for example, could be supplemented with data services, and possibly other kinds of commercially oriented services.

So, the potential is there and, in fact, in the case of broadcasters, it may well be the sort of thing we will be talking about in the next year or so, right along with high definition.

Senator BURNS. I was interested in your statement on the matter of auctions is not really as clean as you would like to have it and it is hard to administer. I am a great believer in auctions, I will tell you that right now. Being an auctioneer, I would like to have the job selling it, and if I could get 5 percent on the thing, I think I would resign my position where I am now and go back in the auction business pretty fast.

I want to follow up on Senator Stevens' line of thinking, and get your idea on why not set aside a portion of the revenues generated by this auction method or this competitive bidding to fund a national information infrastructure modernization trust fund or to finance rural or educational different things that we are going to need and we are seeing it happen now in our schools, where they would like to take advantage of the technologies but do not have the money.

Maybe Government loans or some way that some of this money could be set aside to do some good in this particular field for, say, rural health care facilities or distance learning or whatever in education, where these technologies are being used more and more everyday, and they are coming to the fore as being part of the infrastructure for economic growth, and of course, in our service industries.

Would the Commission entertain an idea like that?

Dr. STANLEY. I am not sure it has ever been put to us quite in those terms. Those kinds of decisions, I think, really go back to congressional-level decisions as to how the money from the Treasury is distributed.

The bill currently takes the auction proceeds and puts them in the Treasury. And it strikes me that is complete carte blanche for the Congress to make whatever decisions it needs to.

My personal view is I think it is a splendid idea.

Senator BURNS. Well, I am getting back to the whole thing, I guess, how do we answer the critics on the auction method? How do we protect, see, I sit on the small business committee and on the subcommittee on minority business, how do we protect those people who I think should have a shot at some of this spectrum, either from a minority standpoint or by a small business or a small entrepreneur just starting out, and you are not competing against the deep pockets? How do we answer our critics on that whenever we come up to the auction method?

Dr. STANLEY. The example that springs to mind is something like personal communications. If the Commission can make a variety of licenses available, and I will just pick a number, three, four or five, in a particular geographic area, it is quite likely that something along the lines of either guaranteed loans are spreading the pay-

ments out over several years, or even royalties, would really be a great leveler for all comers who really are bidding for whatever revenues that their own planning cycle would permit, which actually means that they are able participants in that auction.

If that is not enough, we can identify even further, say, particular set-asides that are treated even more preferentially.

Senator BURNS. Thank you, Mr. Chairman.

And thank you, Dr. Stanley. I appreciate that.

Senator INOUYE. Thank you, Sir.

Thank you, Dr. Stanley.

Dr. STANLEY. Thank you.

Senator INOUYE. And now may I call upon the next panel, the vice chairman of the McCaw Cellular Communications, Inc., of Washington, Mr. Wayne Perry; the president and chief executive officer of the National Association of Broadcasters, Mr. Edward O. Fritts; the president of the Hamilton Telephone Co. of Aurora, NE, Mr. Phillip C. Nelson; the president of the National Association of Business and Educational Radio, Mr. Jay Kitchen; and the senior vice president of Government affairs, Fleet Call, Inc., Mr. Robert S. Foosaner.

May I first call on Mr. Perry.

STATEMENT OF WAYNE PERRY, VICE CHAIRMAN, McCAW CELLULAR COMMUNICATIONS, INC.

Mr. PERRY. Mr. Chairman, members of the committee, good morning. My name is Wayne Perry. I am vice chairman of McCaw Cellular Communications, Inc., the largest wireless provider in the world, and I am also currently the chairman of the Cellular Telecommunications Industry Association, CTIA. CTIA represents 95 percent of the cellular operators in the United States, Mexico, and Canada.

Although I am testifying today on behalf of McCaw, CTIA also supports S. 335's provisions providing for additional spectrum, and, at this time, has not endorsed the bill. I think that CTIA's primary concern has been to ensure the participation of the small businesses in the process as it moves forward.

But I will tell you that McCaw wholeheartedly supports S. 335, the Emerging Telecommunications Technologies Act of 1993. This legislation represents one of the first concrete steps toward building a national information infrastructure that is the primary objective of this Congress and the Clinton administration.

The building block for this wireless infrastructure is spectrum. This legislation addressees three critical policy aspects regarding the allocation and assignment of spectrum. First, it makes 200 megahertz of badly needed spectrum available for emerging wireless services. Second, it establishes a spectrum reserve to ensure that our future wireless telecommunications needs are met. And, finally, it initiates licensing reform with respect to the method of licensing the spectrum that we think is necessary in light of the existing flawed process.

The incredible growth of the cellular industry in the United States is, I think, a testimony of how the wireless communication infrastructure can spur the creation of new jobs, to stimulate the economy, and create a much better way for Americans to live.

In 10 short years, the cellular industry has spent $10 billion on wireless infrastructure, created 100,000 new jobs, and now serves over 11 million subscribers. There is almost ubiquitous service in all 734 metropolitan rural service areas, providing cellular service to virtually the entire population of the United States.

The wireless industry needs the spectrum that S. 335 will make available to embrace its bright future and introduce new services. S. 335 establishes a well-defined and well-thought-out process that will reallocate the 200 megahertz of spectrum from the Federal Government to accomplish this wireless future.

McCaw also supports the spectrum auction proposal. McCaw believes that, properly implemented, the spectrum auction proposal can facilitate the development of this advanced wireless infrastructure. To be successful, spectrum auctions must be established with no set-asides of qualified applicants. The inclusion of all qualified providers will ensure the maximal participation and new services to the public.

Excluding cellular carriers from the auction participation for advanced mobile and wireless services would be like precluding U.S. Senators or Governors from running for President because they currently hold public office.

Excluding the people who have the greatest expertise, who have made a commitment, who have made the investment, who have built the infrastructure and taken the risk only inhibits the rapid and effective development of the advanced wireless information infrastructure.

McCaw and the cellular industry support the Senators' interest in fostering minority and small business participation, wireless competition, and rural service. But McCaw believes the best way to accomplish these laudatory policy objectives is to establish FCC licensing requirements for personal communication services, PCS, that promote participation, competition, and rural service.

The FCC should establish small, local licensing areas and issue at least five PCS licenses in each market. With multiple licensees in each market, a large number of diverse participants will ensure the rapid delivery of advanced wireless services.

Finally, there are two additional important developments for wireless infrastructure that Congress needs to involve itself in. Congress should develop policies that would establish regulatory parity for all wireless service providers. It does not make sense for some wireless service providers, as common carriers, to be subject to one set of rules, while at the same time competing wireless service providers providing similar wireless services are classified as private carriers.

This does not ensure the existing playing field be level, and it makes it very difficult and confusing to the consumer.

In addition, Congress should clarify that the spectrum involved belongs to the Federal Government. Therefore, they should ensure that no State can enact a tax, fee, or other assessment on the value of the license, and no tax should be imposed other than by the Federal Government. This provision would also ensure that the Federal Government maximize its return in any auction proposal.

A national information infrastructure has become the key policy objective of the nineties. This is something that we support fully.

As information rapidly becomes the currency of economic competition, the importance of this legislation will be enhanced and brought forth.

The future of the wireless world, I can assure you, is quite bright, and we wish to thank Senator Inouye and the other Senators who are involved in this process. And we endorse wholeheartedly S. 335.

Thank you.

[The prepared statement of Mr. Perry follows:]

PREPARED STATEMENT OF WAYNE PERRY

Mr. Chairman, members of the Committee, good morning. My name is Wayne Perry. I am a vice chairman of McCaw Cellular Communications, Inc. and current Chairman of the Board of Directors of the Cellular Telecommunications Industry Association (CTIA), an organization that represents 95 percent of the cellular systems throughout the United States, Canada and Mexico. It is a pleasure to be here to testify before you this morning.

Although my testimony is on behalf of McCaw I want to point out that CTIA supports S. 335's provisions to make additional spectrum available for commercial use. Even though I believe that many cellular carriers also would support the auction provisions of the legislation, CTIA is unable to do so at this time. CTIA's principal concern is that the auction provisions as currently drafted do not go far enough to ensure that small businesses will be able to fully participate in new spectrum opportunities. The cellular industry, large and small, hopes it will be able to work with the committee to resolve this issue.

On behalf of McCaw I would like to express our wholehearted support for S. 335, the Emerging Telecommunications Technology Act. This legislation represents one of the first concrete steps towards building a National Information Infrastructure that is a primary objective of the Clinton Administration and the 103rd Congress.

The building block for the construction of a wireless Information Infrastructure is spectrum. This legislation addresses three critical policy issues regarding the allocation and assignment of spectrum. First, it makes 200 MHz of much needed new spectrum available for emerging wireless telecommunications networks and services. Second, it establishes a spectrum reserve which is essential to accommodate our nation's wireless telecommunications future. Finally, it initiates licensing reform by authorizing a new method of spectrum license assignment to replace the currently flawed system.

BACKGROUND

The incredible growth of the cellular telecommunications industry and McCaw Cellular are graphic examples of how wireless communications spurred by this legislation can create new jobs, stimulate the economy and improve the way Americans live. In ten short years since cellular service began in Chicago, the cellular industry has become a made-in-America success story. In the process, the cellular industry invested over $10 billion in a wireless infrastructure and created more than 100,000 new jobs. With only 50 MHz of spectrum split between two fierce competitors in each market, the cellular industry serves over 11 million subscribers and is now ubiquitously available in all 734 metropolitan and rural areas, offering service to virtually the entire American population. The cellular industry's deployment of wireless service in rural America is especially noteworthy. Rural systems were constructed and operational at unprecedented speed, without government subsidies. This domestic success has had a ripple effect in the international marketplace. America is the undisputed world leader in wireless technology exporting its cellular expertise to over 70 foreign countries.

Mr. Chairman, we have entered a new era in wireless communications. The cellular industry has surpassed even the imagination of Hollywood producers. Today, the Dick Tracy watch, Star Trek communicators and high speed wireless data transmission to moving vehicles are a part of everyday life. McCaw's vision of a seamless, national wireless network supporting a wide variety of voice, portable computing, video and information services where telephone numbers are tied to people, not places, is upon us. It is no longer a vision, it is a reality.

While the cellular industry's achievements are truly remarkable, they provide only a hint of the boundless potential of wireless telecommunications. There are, however, three obstacles blocking the architects and builders of tomorrow's wireless technologies from moving forward—spectrum, spectrum, spectrum.

S. 335

The wireless industry needs the spectrum S. 335 makes available to embrace its bright future. S. 335 establishes a well defined and systematic process that will reallocate 200 MHz of spectrum from the federal government for commercial use to accommodate this rich wireless infrastructure. As one of the cellular carriers in two of the nation's largest markets, New York and Los Angeles, McCaw knows first hand that even the most efficiently used spectrum has capacity limitations. McCaw has spent hundreds of millions of dollars to become the first cellular provider to deploy a fully digital commercial system to increase network capacity. But even this spectrally efficient, high capacity 25 MHz cellular network will not meet the future demands of the wireless customer or support a robust wireless infrastructure.

In addition, the 200 MHz of reallocated federal government spectrum—especially the spectrum transferred on an expedited basis included in this legislation—will help balance the immediate spectrum needs of new technologies with those of incumbent users. Recently, Senator Hollings made an important contribution protecting incumbent 2 GHz microwave users threatened by forced relocation. This legislation will create a home for new technologies while mitigating the disruption and inefficiencies caused by relocating valuable incumbent users.

SPECTRUM AUCTIONS

McCaw also supports the spectrum auction proposal that has been included in this legislation. A spectrum auction proposal, properly implemented, provides an opportunity to facilitate the further development of an advanced wireless infrastructure. Spectrum auctions may not be a perfect licensing procedure, but it is the best among bad alternatives. Auctions will establish a more efficient method to assign spectrum licenses between equally qualified applicants than the currently flawed lottery system. The lottery system for cellular licensing fell far short of its stated goals. In fact, lotteries actually worked to the detriment of the cellular industry. It encouraged speculation, flooding the FCC with unqualified applicants and delaying the implementation of cellular service. Ultimately, legitimate non-wireline cellular providers were forced to participate in private auctions to obtain from speculators the cellular licenses necessary to build their cellular networks and provide effective, high quality service. Sadly, many of those same speculators—now in the guise of potential PCS providers—are again requesting valuable spectrum.

Specrum auctions will discourage speculators and involve only those who meet the threshold qualifications and who are willing to invest the necessary time, energy and capital. They will facilitate the rapid introduction of new wireless services to the public by decreasing the time spent in the licensing process. And finally, spectrum auctions will raise revenue to offset the budget deficit so that instead of giving speculators a windfall, the federal government and the general public will benefit from the value of the nation's scarce spectrum According to the Office of Management and Budget, spectrum auctions could raise $4.5 billion for the federal government over the next four fiscal years. The Congressional Budget Office just last week estimated that spectrum auctions will raise $7.2 billion over a five year period.

OPEN ENTRY

To be successful, spectrum auctions must be established with no set-asides or exclusions of qualified applicants. Open entry gives consumers the opportunity to benefit from a wide variety of wireless services and ensures that the most qualified and experienced providers participate equally with new entrants. The result would be universal service, rapid deployment, diversity and competition. As a recent FCC paper found, cellular carriers are uniquely positioned to efficiently and cost effectively offer a variety of wireless services in conjunction with the existing cellular networks.[1]

Excluding cellular carriers from participation in enhanced and advanced wireless services would be like prohibiting a state governor or U.S. Senator from running for President just because the official already holds public office. Excluding the people who have the greatest expertise, who have demonstrated a commitment, who have made the investment and taken the risks only inhibits the rapid and effective development of an advanced wireless telecommunications infrastructure.

Today, the wireless industry is sufficiently advanced so there is no justification for asides. Enough experienced providers exist to ensure rapid implementation of new serviced without unfairly favoring one class of licensee over another. Personal

[1] FCC Office of Plans and Policy, Working Paper No. 28 on Cost of Personal Communications Services, November 1992.

Communications Services (PCS) were not products developed by local exchange carriers nor are they PCS solely dependent upon the telephone company for its timely deployment. And as we move toward a wireless future, there is no reason again to advantage the local telephone companies in the development of a wireless telecommunications infrastructure. It is important to note, the CBO found excluding a particular class of providers from spectrum auctions or establishing set-asides for another would significantly reduce both the potential revenue from and the economic efficiency of spectrum auctions.[2]

SMALL BUSINESS AND MINORITY PARTICIPATION

McCaw and the cellular industry share the Senators' interest in fostering minority and small business participation, wireless competition and rural service. McCaw believes the best way to accomplish these laudable policy objectives is not by distorting the market with spectrum set-aside or exclusions but by establishing FCC licensing requirements for PCS that promote participation, competition and rural service. The FCC should establish small, local licensing areas and issue at least five PCS licenses in each market. As the provider who operates more wireless systems than anyone else in the world, McCaw can confidently assure you that five licenses with 20 MHz of spectrum will be highly valued by bidders (including us) and provide consumers with a bounty of competitively offered wireless services. With multiple local licensees, a large number of diverse participants offering a wide variety of services is guaranteed. An FCC policy licensing at least five PCS providers in local markets will encourage diversity, localism and competition by ensuring that everyone can take part in this nation's wireless future.

In addition, licensing PCS on a local basis, such as the MSA/RSA boundaries used in cellular, would ensure that mobile service is brought to rural areas as well as metropolitan areas. The cellular industry again is an example of how effective local licensing can be to ensure diversity and localism of wireless service providers. Small local licensing areas ensure that people with the greatest interest and knowledge in a community or technology are guaranteed an opportunity to provide wireless services.

REGULATORY REFORM

I would like to discuss two other issues important to the development of a wireless infrastructure.

Congress should bring telecommunications regulation in line with new requirements and market opportunities to enhance competition and encourage technological advancement Today Enhanced Specialized Mobile Radio, satellite services and many other wireless providers compete with cellular carriers in the provision of similar wireless services. However, competing wireless service providers have very different regulatory obligations and restraints. The licensing of PCS will not only increase competition but even further complicate this regulatory morass.

Congress should develop policies that would establish regulatory parity for wireless service providers. The wireless industry must be freed from conflicting regulatory policies that threaten to gridlock further development All wireless service providers should be subject to some common carrier obligations, including nondiscrimination requirements and foreign ownership restrictions. A federal policy should recognize the role of wireless telecommunications as an integral element of a national information infrastructure and prevent state rate and entry requirements that impede the development of fully integrated and seamless wireless networks. It is unfair and counterproductive to classify some wireless providers as common carriers while classifying other competing providers of similar services as private carriers. The disparate treatment creates regulatory loopholes and market imbalances that hurt the consumer.

TAXATION OF FEDERAL LICENSES

Today a few communities and states are imposing unfair, possibly unconstitutional intangible property taxes on the value of federal radio licenses. These additional tax burdens drain investment capital from service providers, delay the introduction of new services and will inhibit the amount of federal revenue raised by spectrum auctions. Congress should decide that a federal radio license issued by the FCC does not transfer the ownership rights of the spectrum. The spectrum belongs to the federal government, therefore the radio licenses should not be subject to the imposition of a tax, fee or other assessment on the value of a license by entities

[2] CBO Study, Auctioning Radio Spectrum Licenses, March 1992.

other than the federal government This provision will ensure that the federal government maximizes the amount of revenue it realizes from a spectrum auction.

CONCLUSION

A National Information Infrastructure appropriately has become the key policy objective of the 1990s. Information networks have a dramatic effect on both the United States and global economies. As information increasingly becomes the currency of economic competition, the importance of this legislation and your efforts will be magnified. The future of wireless telecommunications has never been so bright. I want to express my thanks the Cirman Inouye and the other Senators for your work in promoting cellular service and my support of S. 335.

Senator INOUYE. Thank you, Mr. Perry. I will now call on the president of the National Association of Broadcasters, Mr. Fritts.

STATEMENT OF EDWARD O. FRITTS, PRESIDENT AND CEO, NATIONAL ASSOCIATION OF BROADCASTERS

Mr. FRITTS. Thank you, Mr. Chairman, and good morning members of the committee. We have a lengthy statement which has been filed for the record, but I will abbreviate that.

Senator INOUYE. Without objection all of your prepared statements are made a part of the record.

Mr. FRITTS. Mr. Chairman, we are pleased to endorse S. 335, legislation that you and Senator Stevens and others have worked so hard to craft. We thank you for what we believe is an excellent legislative solution to a complicated policy issue.

Now, the demand for spectrum, I think we all agree and recognize, has increased dramatically in recent years. Efficient, coherent spectrum policy will open up new technologies for the American people including personal communications services, cellular and other phone services, plus many that perhaps we have not dreamed of yet. This legislation will help meet those demands by providing the spectrum that these and other technologies undoubtedly need.

NAB is pleased that you have recognized that if Congress authorizes the FCC to use competitive bidding to assign licenses, exemptions are needed for certain services. As you well know, since 1934 broadcasters have had a unique relationship with the Federal Government and, of course, with the American people.

In exchange for the use of the spectrum, broadcasters agree to serve the public interest and be judged on how they have accomplished that when their licenses come up for renewal. This system has helped create a radio and television marketplace that is the envy of the world, where viewers and listeners have a full range of diverse programming as well as a plethora of news and information they need and want.

Your legislation correctly recognizes that this is an unique obligation among all spectrum users. Applying competitive bidding to the assignment of broadcast spectrum would work against the public interest rather than for it.

Now, if broadcasters were subject to a competitive bidding or auction process we believe our ability to serve the public interest, as mandated by the Congress, would in fact be reduced. In addition, auctions of broadcast spectrum would work against ensuring that broadcast licensees represent diverse interests including minorities.

The FCC should judge the applicants for broadcast spectrum based on their fitness to serve local communities, not on the size

of their wallets. And, thus, the exemption in S. 335 for the broadcast spectrum users is logical and sound communications policy, and we support it.

S. 335 also applies that exemption to future broadcast technologies, including digital audio broadcasting and high definition television. We also believe that is appropriate policy, and we endorse that.

Broadcasters use, in addition to their main signals, some auxiliary spectrum for such things as the studio to transmitter links, electronic news gathering facilities, remote pickups, and various TV relays. All of these are a necessary part of our ability to be able to serve the public interest, and we would hope that in at least the legislative history of your legislation, the committee would agree to clarify that the use of this auxiliary spectrum by broadcasters is indeed covered by this competitive bidding exemption.

Your bill also specifies that the FCC's annual appropriations legislation can be used to authorize the FCC's competitive bidding authority. Now, since Congressional oversight of this process is important, the Senator Commerce Committee and its House counterpart should be the principle forums for such oversight. This process should not become the sole province of the Appropriations Committee.

And in conclusion, we heartily endorse S. 335. We believe that this legislation correctly treats broadcast spectrum as unique, and provides for the efficient use of spectrum by all of its users. And when it becomes law, the American people will have many new and exciting technologies to serve them, and we can maintain our locally based system of radio and television that has served our public so well.

Thank you, Mr. Chairman. I will be happy to answer questions at the appropriate time.

[The prepared statement of Mr. Fritts follows:]

PREPARED STATEMENT OF EDWARD O. FRITTS

Thank you, Mr. Chairman, for the opportunity to testify today on S. 335, the Emerging Telecommunications Technologies Act of 1993. I am Edward O. Fritts, President and Chief Executive Officer of the National Association of Broadcasters (NAB), which represents those who own and operate America's radio and television stations, including most major networks.

NAB has long supported legislation to re-allocate government-held spectrum. Passage of the spectrum re-allocation provisions of S. 335 are overdue. The telecommunications world has literally exploded with new and exciting technologies. Cellular telephones—personal communications services—data broadcasting—all these technologies and more promise a new world full of new access to information through communications and economic benefits to all Americans. In addition, public safety agencies such as police, fire and rescue units, are seeing increased needs for more and better communications to help save lives and fight crime.

But with these competing needs and applications comes the demand to dole out carefully the available electromagnetic spectrum that these technologies must have to operate. And as has become abundantly clear, we are running out of room on many existing bands for including these and other new services desired or demanded by consumers. With so many competing uses, we face denying to the American public some particularly new and desired services unless we can provide this additional spectrum real estate.

The legislation before the subcommittee today does just that. Providing for the reallocation of at least 200 MHz of spectrum to commercial and private use will ensure that technologies whose usage would benefit the American people will be able to flower and prosper in the years ahead. Personal communications systems, data broadcasting or other information systems are just a few examples. At the same

time, we will help prevent interference on existing broadcast or other spectrum which can occur when competing uses are too closely assigned, thus providing broadcasters and other users a benefit. In addition, broadcasters may have increased needs ourselves for additional spectrum for newsgathering and program relay purposes.

While NAB supports spectrum reallocation, we also have strongly expressed our opposition to the use of auctions or other competitive bidding schemes to assign licenses to use broadcast spectrum. We believe that such schemes would work fundamental and harmful changes to the traditional "contract" between the government and broadcasters.

In exchange for their licenses, broadcasters accept the obligation to serve the public interest. Broadcasters alone have such obligations. Virtually every other commercial user of spectrum, such as telephone companies, cable TV systems or two-way radio operators, merely receives a license and a frequency. These other users have, with few exceptions, no requirements other than to operate within FCC rules and federal communications law.

Broadcasters also differ from these other commercial users in another important way—they serve the public at no charge to the user. Radio and television programming is available at absolutely no cost to any American who owns a receiver. Again, most other commercial spectrum users charge their customers for the right to use their services over the spectrum they have been licensed to use.

Competitive bidding schemes for broadcast licenses would eliminate this "contract' between broadcasters and the government and would threaten broadcasters' ability to provide the superior levels of service which the public has come to expect from their local stations.

Throughout its history, the FCC has recognized the unique qualities of radio and TV broadcasters, and has awarded broadcast licenses with an eye toward ensuring that their holders serve the public interest. The Commission traditionally has tested applicants for its broadcast licenses to determine their fitness. The FCC also has worked to balance properly the need to provide opportunities for minorities and other under-represented persons to obtain FCC broadcast licenses with the obligation to license all applicants fairly. Using minority preference, tax certificate and distress sales policies, the Commission helps provide diversity in ownership and programming.

But competitive bidding for broadcast spectrum would allow only those individuals with significant resources to have the opportunity to acquire spectrum licenses. There would be little or no opportunity to test the fitness of applicants, since the overwhelming criteria instead would be the applicant's financial status. And the FCC's attempts to increase opportunities for minorities or othser groups would be severely restricted. In a world of broadcast spectrum auctions, only those who already have large financial backing would have a real chance to win licenses, and I fail to see how that situation assures that the nation's broadcast service continues to serve the needs of our citizens.

Clearly, at least as far broadcast licenses are concerned, we remain unalterably opposed to any system that would turn the granting of a broadcast license to serve the public interest into a prize to be won by the highest bidder.

Therefore, NAB is very pleased that the sponsors of S. 335 have recognized the harm that the application of competitive bidding to broadcast services would work. This bill provides several specific exemptions in light of this recognition. For example, it provides a broad delegation to the FCC to exempt services from competitive bidding "because of public interest factors." More directly, however, the bill explicitly exempts "over-the-air terrestrial radio and television broadcast services."

The new Administration, as have previous administrations, has included its own spectrum auction proposal in its economic program. The Administration projects that its auction proposal would raise more than $4 billion over four fiscal years. Few other details of its plan are available to date. Thus, it is not clear how much spectrum would be subject to competitive bidding under the Administration's plan. Nor is it clear whether the Administration's plan incorporates the broadcast exemption contained in S. 335. NAB will strongly oppose this Administration auction proposal if it does not contain this exemption.

Given the intense pressure on the Administration and Congress to raise revenues, this Committee is likely to face corresponding pressure to expand the amount of spectrum subject to competitive bidding under S. 335, to expand the duration of the Commission's authority to utilize auctions, or both. Any expansion of the competitive bidding scheme—in scope or duration—must incorporate the same broadcast exemption provisions found in S. 335.

APPLICATION OF THE BROADCAST EXEMPTION TO DAB AND HDTV

It is important to note that the bill's broadcast exemption will apply not only to the over-the-air terrestrial radio and television broadcast services of today, but also to those of tomorrow, when terrestrial radio broadcasts may be in digital form ("DAB") and when terrestrial television broadcasts may be in high definition formats ("HDTV"). Although new spectrum assignments may be required for over-the-air terrestrial stations to broadcast DAB or HDTV, these services still will operate under the same model as today—free, advertiser-supported programming aired by stations licensed to serve their local communities.

BROADCAST AUXILIARY LICENSES

NAB recommends that the legislative history which accompanies this bill should specify that the exemption applies to over-the-air terrestrial broadcasters' use of "auxiliary" spectrum. Broadcasters routinely use various auxiliary licenses to carry out their business.

Among the auxiliary frequencies most commonly employed by radio and television broadcasters are "studio-to-transmitter links" ("STLs"), which are used to feed programming from a station's studio to the main channel transmitter site. Television electronic newsgathering facilities, other TV "remote pickup" facilities and various TV relay facilities also are typical TV auxiliary operations. In addition to STLs, radio stations often employ various other auxiliary systems, such as "intercity relay stations" and "remote pickup" units. All of these facilities are regulated under the FCC's Part 74 "broadcast auxiliary" rules.

In addition, many radio and television stations use "private operational fixed microwave" facilities for telemetry, including remote control of station transmitters. These facilities are regulated under Part 94 of the Commission's rules.

All of these auxiliary functions are a necessary part of broadcasters' service to the public, and thus clearly should be a part of the exemption from competitive bidding. Therefore, the legislative history accompanying this exemption should clarify that it extends to present and future frequencies employed in program production, program relay, tran5nutter telemetry or remote control processes of over-the-air terrestrial radio and television broadcasters.

Another potential issue of interpretation involves radio and television subcarrier use. These uses extend to subcarrier paging facilities, data and text distribution systems, and captioning. Thus far, these subcarrier frequencies have been construed as integral parts of the broadcast signal, in terms of licensing and operation by broadcasters. The legislative history of the exemption for over-the-air terrestrial radio and television broadcast services should reiterate this construction by exempting such subcarrier uses from competitive bidding authority.

SPECTRUM ALLOCATION PROCEDURES

The bill explicitly provides that the competitive bidding procedures "shall not * * * alter spectrum allocation criteria and procedures established by the other provisions of the [Communications] Act". NAB strongly supports this provision of the bill. It is critical that the FCC continue to allocate spectrum solely on the basis of its longstanding public interest considerations. The FCC should not be permitted to allocate spectrum on factors which consider how much revenue may be raised when spectrum allocated to various services is assigned through competitive bidding techniques. To permit the FCC to do so would elevate federal budget considerations above sound communications policy.

CONGRESSIONAL OVERSIGHT

The bill provides that the FCC's authority to utilize competitive bidding is subject to Congressional oversight, and must be reauthorized after the initial trial period. The bill specifies that a requisite clause in an FCC appropriations bill shall be sufficient to reauthorize the Commission's competitive bidding authority.

NAB agrees that regular Congressional oversight of FCC competitive bidding authority is required. We believe that the legislative history accompanying the bill should make it clear, however, that the appropriations process is not the sole means by which Congress may extend the Commission's authority.

NAB believes that the Senate Commerce Committee and the House Energy & Commerce Committee should be the principle forum for such oversight. Furthermore, legislation originating in these committees also can be utilized to reauthorize the Commission's competitive bidding authority. Because the Commerce committees have direct jurisdiction over the FCC and have great experience and expertise in dealing with these important communications issues, the bill should not be con-

strued to exclude these committees from moving legislation to reauthorize the FCC's competitive bidding powers.

PROBLEMS WITH THE FCC'S CURRENT POLICIES ON DAB AND HDTV

While, as noted above, the bill's competitive bidding exemption will apply to DAB or HDTV services which serve the public under the same circumstances as today's radio and television stations, the bill should not in any way be construed as Congressional endorsement of the current FCC policies regarding the development of DAB or HDTV technologies.

DAB

This Subcommittee is well aware of the chronic problems facing the American radio industry. Hearings on radio issues and members' concerns about radio ownership issues have given the Subcommittee a good feel for the uncertain times we now face in radio.

The United States has, without question, the greatest and most diverse locally-based radio system in the world. It is the envy of the world. At our annual conventions, thousands of international visitors come each year in increasing numbers to learn about the excellence of the American radio system and how they can try to recreate that system in their own country.

But while we have a radio system of which all of us can take great pride, it is a system that is hurting—and hurting badly.

Over the past ten years, the FCC has added, through various dockets, over 2,000 new radio stations to the American radio dial. We now have over 11,000 radio stations serving the U.S., one station for every 22,000 people. Compare that with Canada, which has only one station for every 50,000 people, or with Mexico, which has one station for every 92,000 people.

With all these new stations signing-on, the number of radio stations has now reached the saturation point. Last year, for the first time in our history, more than half of all commercial radio stations lost money.

Yet even while the economy is slowly improving and some consolidation within our industry continues, we face a new threat—one which is blindly driven by misguided policy, not by economics, consumer demand or need. It is satellite-delivered DAB, and I believe it is the single greatest threat facing locally-based American radio.

Already, the FCC is giving serious consideration to an application for a new satellite DAB service by a fledgling company called "Satellite CD Radio."[1] Indeed, the Commission has already proposed an allocation of spectrum for this service.[2] This service proposes to deliver 30 to 60 new channels of audio service to homes, businesses and cars in every market in the country. But think about it—that's like adding 30 to 60 new radio stations into every market, stations that have no obligation to serve the local needs and interests of their listeners. Could it be that the FCC has such a short memory?

Just a couple of years ago, the Commission recognized that the overpopulation of radio stations had to stop—or stations would simply go out of business on their own. That is why the Commission approved expanding the duopoly rule, so that some consolidation could bring economies of scale back to the radio business. Indeed, the Commission's careful relaxation of these rules just last year was in response to the overcrowded conditions on the radio dial, and was done so that local stations can sustain their economic viability.

Yet now, that same Commission is considering a request to authorize the creation of satellite DAB services—a new audio service that will only do even further damage to the locally-based, locally-supported radio service Americans depend on. This new proposal is not about new DAB technology—it is about additional radio by satellite.

NAB has long been strongly opposed to satellite DAB transmission. We do so for one simple reason—because it undermines the whole concept of localism upon which American radio is based.

Any decisions on allowing deployment of satellite digital audio broadcasting must take into consideration the impact of such services on existing radio broadcasters and their listeners. It is those broadcasters who have worked tirelessly to serve the American people for 70 years. It is those local radio stations that provide the local news and other programming that no national satellite-based DAB service can ever

[1] Five other applications have already been filed for satellite DAB. The Commission has not yet accepted those applications for filing.
[2] FCC MM Docket No. 90-337.

hope to provide. Yet here we are, facing what could be the death sentence for the very system of local radio that the rest of the world is trying so hard to emulate.

The Communications Act of 1934 is based on the bedrock principles of localism and diversity. Yet allowing one or two large national satellite DAB companies to control delivery of 30 to 60 channels in each market is a total contradiction to those principles. Where is the fairness of such a sweeping market change? How does it serve the public interest to replace thousands of radio stations with one or two national ones?

Satellite radio is certainly not local, and such a service is not diverse, either, since all 30 or 60 channels carried on a satellite service could all be owned by the same person or company. If the government wants to move forward with satellite DAB, then it should change its long-held policy about localism and diversity. But it should do so for sound policy reasons, not simply because a new technology has arrived.

NAB is not saying "no" to DAB service, or to ever allowing satellite DAB to occur. What we are saying is that we do not understand how public policy will benefit by allowing satellite DAB to begin before existing radio broadcasters have the opportunity to provide the same quality of service through a locally-based, terrestrial DAB service. And certainly, before any DAB service begins, either with existing or new technology, the FCC must develop a coherent radio policy, both technically and legally.

In fact, work is rapidly progressing on just such terrestrial systems. DAB systems are now under development which will provide listeners with greater fidelity and less interference than ever before imagined. These systems are being designed to operate in the existing AM and FM radio bands, on the same channel as the existing radio stations, where they will promote the efficient use of spectrum. CD-quality audio has the potential to revolutionize the American radio industry, while also furthering our goal to serve the public interest.

But the FCC must not be allowed to rush to judgment. Before it is a request from Satellite CD Radio to allocate frequencies in the 2310-2360 MHz band for satellite DAB service. We have filed a strenuous objection moving ahead with satellite DAB, and I call upon you, Mr. Chairman, and your colleagues to voice similar concerns.

We should not be leaping head-long into authorizing a new satellite DAB service when the FCC itself has not even developed its own philosophy about where we should go and how we should proceed.

HDTV

As we move from the current over-the-air system of analog television signals to one of high-definition digital TV, we must maintain the flexibility needed to provide the added spectrum for this new technology.

As this Subcommittee knows, we are getting very close to having an HDTV standard recommended to the FCC. The Advanced Television Test Center in Alexandria, VA, has completed its initial testing of four different HDTV systems, and the Advisory Committee on Advanced Television Service set up by the FCC plans to recommend a standard to the Commission later this year or early next year. Once that standard is selected, broadcasters, program producers and others will be able to begin the process toward moving us from our current NTSC standard to HDTV.

While all of us are excited by the prospects of this advancement for the American television viewer, we remain concerned about the timetable which the FCC has laid out for implementing the new standard. We also are concerned about the proposal to place all HDTV frequencies within the current UHF TV band, as opposed to both UHF and VHF.

Mr. Chairman, digital HDTV transmission works. Not too many years ago, we did not think that HDTV would even be possible in our spectrum and certainly not in a narrow channel. But today, thanks to digital technology, we will soon be able to offer HDTV. And since we will be using digital means to deliver the signals, we can also offer other types of broadcasting—broadcasting to new digital receivers, computers, pagers, and digital devices that have not even been invented yet. The possibilities are limitless.

Yet this technology does not come without considerable start-up costs, as you would have with any new transmission system. Some estimates put the total cost of upgrading transmitters, cameras and related hardware at upwards of $10 million. And that is $10 million per station—in both big markets like New York and Boston, and in small markets. Given the continued financial difficulties many TV stations

are continuing to face[3] (even with a slowly improving economy), we believe it is important that the FCC give broadcasters some flexibility in making the transition from NTSC to HDTV.

Remember, too, that viewers must begin purchasing new sets to view the enhanced picture quality that HDTV will provide. That process, as with the transition from black-and-white to color sets, will not happen overnight.

At this point, the Commission is considering giving stations just three years to apply for a reserved frequency after the HDTV standard is selected. It also is looking at requiring stations to initiate some kind of HDTV service within six years, and to give up their current NTSC channel at the end of 15 years.

We believe that with so many market forces at work and with the television industry still trying to climb out from under the recession, the Commission should give broadcasters more time to make an orderly transition of this magnitude. Otherwise, we face the possibility that many stations will not fully utilize this new technology, and the losers will then be the American people.

In addition, we question the FCC's notion that all the HDTV frequencies eventually be placed within the current UHF band. This preliminary view is disturbing for a number of reasons.

First, placing most of the HDTV signals within the UHF band will lead to smaller HDTV service areas, more interference with the current NTSC signals now operating in the UHF band, and substantial cost penalties to stations allotted a VHF HDTV channel during the interim period between when they begin transmitting in HDTV and when the all-UHF rule would take effect. For these reasons alone, such a scheme is not acceptable and the Commission's proposal should be discarded.

In addition, based on filings at the FCC by equipment manufacturing interests, there would be only a negligible benefit to consumers in cheaper receiver costs from having all HDTV signals in one band. Indeed, given that the VHF band will be used during the transition period, tuners sold during that time will, of necessity, be required to have VHF HDTV capability. If that is the case, then why not leave those VHF stations in the VHF band permanently once HDTV is the sole transmitting source?

Flexibility in how the HDTV channel can be used is also a critically important issue to broadcasters. The FCC Advisory Committee acknowledges that ancillary use of the HDTV signal for such ventures as data transmissions and alternative audio and video programming offers broadcasters the prospect of additional revenue streams with which to defray the startup costs of converting to HDTV. Given the financial difficulty facing many stations, these ancillary opportunities to bring in additional revenue may be a critical factor in helping speed the transition to HDTV. If enough flexibility is provided for higher data rate broadcasting, for example, consumers also would see an explosion of new products, which would provide them with an added benefit as well.

Mr. Chairman, all of us look forward to the day when HDTV will be a reality, and that day will come if broadcasters are given the ability to make a reasoned transition from NTSC to HDTV. But I want your subcommittee to understand that if the FCC goes ahead with its preliminary timetable for HDTV implementation, we face a scenario where there will be a system available but few, if any, willing to invest the resources needed to get it up and running. And that would be a travesty of the highest magnitude.

CONCLUSION

In conclusion, Mr. Chairman, let me review briefly what I have said here today.

First, NAB enthusiastically endorses the spectrum reallocation provisions of S. 335, and we urge you to move this bill as quickly as possible. The demand for spectrum necessitates that you take this action at the behest of all Americans and all spectrum users.

Second, we strongly support the bill's specific exemption of terrestrial radio and television broadcast services from competitive bidding. Any expansion or extension of the Commission's authority to use competitive bidding must maintain this exemption.

Third, we are concerned about the prospect of satellite-delivered DAB destroying the world's greatest system of commercial, locally-licensed radio stations, and/or impeding the successful introduction of DAB by the terrestrial radio services. We urge

[3] One quarter of all network affiliated TV stations lost more than $477,000 in 1991. One half of all independent stations lost more than $314,0(X), with one quarter losing over $1.6 million. One half of all UHF stations lost more than $268,000, with the average UHF station losing $525,000. 1992 NAB Television Financial Report, Washington, D.C.: National Association of Broadcasters, 1992.

you to join us in opposing any attempt to authorize such a system until the FCC has come to grips with the need to develop a fair and comprehensive plan for moving from current radio broadcasting to DAB.

And finally, we are seriously concerned that the FCC might make deployment of HDTV less than successful. We believe chat broadcasters should be given as much flexibility as possible in making the transition from NTSC to HDTV. We also believe that the notion of placing all HDTV signals within the current UHF band is unworkable, unwise and not in the public interest. We would urge you to join NAB in calling for a prudent timetable for rolling out this new technology for the benefit of all TV viewers.

As always, I appreciate the opportunity to testify on these issues here today, and I look forward to answering your questions.

Senator INOUYE. Thank you very much, Mr. Fritts. Now, may I call on Mr. Nelson?

STATEMENT OF PHILLIP C. NELSON, PRESIDENT, HAMILTON TELEPHONE CO., RURAL TELEPHONE COALITION

Mr. NELSON. Thank you, Mr. Nelson. My name is Phil Nelson. I am president of the Hamilton Telephone Co. in Aurora, NE. We serve approximately 5,000 subscribers in Aurora and 8 surrounding communities of central Nebraska, and have been since 1902.

I appreciate the opportunity to present the views of the Rural Telephone Coalition on S. 335. The coalition, as you know, is made up of three organizations representing small and rural telephone companies that provide service throughout the United States.

Mr. Chairman, the Rural Telephone Coalition believes that new spectrum dependent services must be made available to rural Americans as well as their urban counterparts. Spectrum reallocation legislation, such as S. 335, could help ensure that more spectrum is employed for this purpose.

The Rural Coalition, however, has been opposed to the concept of spectrum auctions since they were first debated in 1987. We believe that the auctions sacrifice the concept of public interest for marketplace value. In addition, they would eliminate small and rural telephone companies like Hamilton from the license assignment process in favor of large regional or national companies.

Small telephone companies and rural telephone companies such as ours have a long history of providing the latest technology in thin markets where costs tend to be higher and demand is limited by low population density.

Hamilton, for instance, has a service area where the average density throughout our service area is only seven subscribers per route mile. Outside of the nine communities, the nine small communities we serve, the density is less than three-quarters of a subscriber per route mile.

Nevertheless, we have proceeded to provide substantial technologies that have become available to our subscribers, and the services that come along with that. Our system is entirely digital switching systems. We operate over 125 miles of fiber optic cable interconnecting those systems.

We think that this has been helpful in developing the economy of our area. Our company has spread out into other services—operator services, hearing impaired services both for Nebraska and another State, and at the present time employs about 120 people in our operation in the small town. In addition to that, the community

has approximately 800 manufacturing jobs, many of which are in firms which rely heavily on telecommunications services.

The Rural Telephone Coalition is aware of the pressures facing Congress and the administration to reduce the Federal deficit and control Government spending. We are also aware of the appeal of spectrum auctions in this climate. It is crucial, however, that such legislation will provide for rural access to new technologies and services, and provide the universal service which is the underlying concept of our telephone system.

The RTC appreciates the effort in S. 335 to address rural telephone company concerns by including rural program provisions in the bill. We do have some concerns with the bill, however, and hope that we can continue to work with your committee and your staff to resolve them.

Let me briefly mention two of those concerns. First, the bill's definition of rural area includes the population ceiling of 2,500. This will limit many rural areas from qualifying for any rural program exemptions which would be necessary to preserve universal service.

And limiting the rural program to communities of 2,500 or fewer will deny many rural areas of the benefits of these new services and technologies.

Hamilton's 600-square-mile service territory includes the town of Aurora, which has a population of 4,000 people. It also includes 8 smaller communities with populations ranging from 75 to 850. Because Aurora has a population over 2,500, and, therefore, does not qualify as a rural area, I could not obtain a rural program license to provide radio services there without participating in an auction. And those services will be necessary for me to provide the latest technology and services to the community we have served for over 91 years.

A second concern is that the rural contains the provision that program licensees will not be eligible to receive any other licenses to provide the same service in that area. We think that the bill should make clear that this provision is not intended to prohibit rural telco's involved in cellular services or the radio-based services from participating in the license assignment process.

Mr. Chairman, the Rural Telephone Coalition appreciates the sensitivity to rural needs evidenced in your bill and looks forward to working with you and your staff to ensure the competitive bidding does not jeopardize universal service or rural America's access to either existing or new radio services and technologies.

That concludes my statement, and I will be happy to answer any questions at the appropriate time.

[The prepared statement of Mr. Nelson follows:]

PREPARED STATEMENT OF PHILLIP C. NELSON

Good morning Mr. Chairman and members of the subcommittee. My name is Phillip C. Nelson and I am the President of Hamilton Telephone Company in Aurora, Nebraska. Hamilton is an independent telephone company that serves approximately 5,000 subscribers in Aurora and eight surrounding communities in central Nebraska. It has been serving the people of this 600 square mile agricultural region since 1902.

I appreciate the opportunity to present the viewpoint of the Rural Telephone Coalition (RTC) on S. 335, the "Emerging Telecommunications Technologies Act of 1993."

The Rural Telephone Coalition is an alliance of the National Rural Telecom Association (NRTA), National Telephone Cooperative Association (NTCA), and the Organization for the Protection and Advancement of Small Telephone Companies (OPASTCO). More than 850 small and rural telephone systems scattered through 46 states are members of the three associations. My company and many other members of the associations use radio frequencies to provide communications services to our subscribers. Radio is a critical component of our telecommunications network. For example, Hamilton provides Improved Mobile Telephone Service (IMTS), a service which predates cellular and is used in some of our more sparsely settled areas where cell sites are not practical. In addition, we are a shareholder in Nebraska Cellular, our statewide RSA cellular system. We also provide paging services.

POSITION

Mr. Chairman, the transfer of spectrum from the federal government to commercial users can help with developing the telecommunications infrastructure. New technologies and services will require more spectrum, and reallocation legislation will help ensure that more spectrum is available. The RTC believes that new spectrum-based services must be available to rural Americans as well as to their urban counterparts.

Mr. Chairman, as a general principle, small and rural telephone systems have opposed the "auction" method of assigning radio licenses since it first appeared in the President's budget in fiscal year 1988. We believe that the assignment of radio licenses through competitive bidding substitutes marketplace value for the public interest. Further, awarding radio licenses to the highest bidder clearly gives an edge to large, wealthy entities over smaller ones such as Hamilton. The small and rural telephone systems which provide telecommunications services in rural and low density areas throughout the country could be effectively deprived of spectrum if licenses are awarded to the highest bidder. Auctions would allow large firms with plentiful resources to outbid small companies with fewer resources, even though small companies have been committed to service in their areas over a long period of time and under difficult circumstances.

The people of rural communities have much to gain if smaller companies are able to provide spectrum-based services. Small and rural companies are accustomed to serving thin markets where costs tend to be higher and demand is limited by low population density. Hamilton, for example, has an overall service area density of seven subscribers per route mile. That figure drops to three subscribers per mile outside Aurora. In those areas Hamilton serves outside of our nine small communities, the density is three quarters of a subscriber per mile.

Nevertheless, Hamilton installed its first digital switch in 1981, and we have been 100 percent digital for nearly six years. Our network includes 125 route-miles of fiber-optic cable, which is configured into two self-healing fiber rings.

This investment in telecommunications infrastructure has paid off through economic development and the creation of local jobs. Most directly, Hamilton itself started a telemarketing operation in 1986. We also provide dual-party relay service for two states, and provide operator services for about 25 other independent telephone companies, mostly in South Dakota. All of this has allowed Hamilton to employ anywhere from 120 to 180 people total. More indirectly, I believe our investment in our infrastructure has helped this highly productive agricultural community diversify its economy. Aurora, for example, now has 800 manufacturing jobs.

Small companies are also adept at introducing the benefits of spectrum-dependent services to the communities they serve. For example, Hamilton is a shareholder in Nebraska Cellular, a cellular system serving the state's 10 cellular Rural Service Areas (RSAs). The participating companies achieved full settlement prior to the cellular lotteries, so they have been able to extend the system into all 10 RSAs in a timely manner.

In the future, Hamilton's customers will demand new spectrum-dependent services, like Personal Communications Services (PCS). If small and rural companies like Hamilton do not have a reasonable chance of acquiring the spectrum licenses to provide such services, the communities they serve will probably not have access to those services in a timely manner, if at all. This will surely create a gap between urban and rural telecommunications resources. The "deep pockets" dilemma would be even worse if the Federal Communications Commission (FCC) adopts pending proposals to award licenses for personal communications services on a national or regional basis.

The RTC is not insensitive to the pressures you and the Administration are under to reduce the federal deficit and control government spending. We also realize that the auction plan, which has been rejected by Congress as a deficit reduction method

since 1987, has gained momentum as part of the Administration's budget proposal. If competitive bidding legislation is to be passed, the RTC believes it is crucial that the legislation provide for rural access to new radio technologies and services, and preserve universal service.

S. 335, RURAL PROGRAM PROVISION

The "Rural Program" provisions in S. 335 reflect an effort to address rural local exchange carriers' problems with competitive bidding, which we appreciate. We do have some concerns with the proposal, however, and hope that we can continue to work with you and your staff to resolve them.

The most important concern is that the rural program would encompass only part of the rural areas that need relief from the "deep pockets" and high volume market biases of competitive bidding. The bill defines a rural area as a geographic area that does not include all or part of any incorporated place of 2,500 inhabitants or more, and is not in a Census Bureau defined urbanized area.

With a population ceiling of 2500, truly rural areas will still be ineligible for the rural programs. We understand that the purpose of the rural program is to preserve universal telephone service, prevent small rural telephone systems from effective exclusion because of the greater resources of larger entities, and accelerate the provision to rural subscribers of new technologies and services that perform functions essentially equivalent to local exchange service. But limiting the rural program to communities of 2,500 or fewer will effectively preclude many rural areas from receiving these benefits. Allowing rural local exchange carriers to be providers is the way to achieve these goals. The experience with the rural exemption for cable service has demonstrated that a 2,500 population limit leaves significant rural territory unserved. For example, a non-telephone company provider is likely to serve only the densest part of the territory with a small community at its center. With telephone plant in place and a long tradition of widespread service, the local exchange carrier is far more likely to make more new services available to rural citizens.

My own company is a good example. Hamilton's 600 square mile service territory includes the town of Aurora, which has a population of 4,000. It also includes eight smaller communities whose populations range from 75 to 850. Because Aurora has a population over 2,500 and therefore does not qualify as a "rural area," I could not obtain a rural program license to provide radio services there. It would be very hard to build a business case to serve the communities of 75 or 850 without serving Aurora as well. As a small company serving a rural community, we would have to participate in an auction for a chance to provide new wireless technology to a community we have served for 91 years. The population limit must be increased to ensure that rural areas obtain access to new services and technologies and that they become as promptly and broadly available as possible.

Another area of concern is the provision that states that a local exchange carrier that receives a rural program license shall not be eligible to: (1) receive any other licenses to provide the same service in such area; or, (2) own any equity interest in, become a creditor of, or otherwise become affiliated with any entity that holds a license to provide the same service in such area.

The question is what "same service" means. The RTC does not dispute that a single licensee should not be eligible for two PCS licenses to serve the same area. But, many small rural telephone companies like mine have licenses or an equity interest in cellular service. Often their interests are small and do not give them any control over operations. The RTC understands, based on discussions with staff, that it is not the intent of S. 335 to prohibit rural telcos involved in cellular service from participating in the rural program under this provision. The bill should make this clear. It should also be made clear that telephone companies with radio licenses would not be impeded by the "affiliation" or "creditor" prohibitions from arrangements incident to their co-provision of the public switched local exchange network.

CONCLUSION

Mr. Chairman, we appreciate the sensitivity to rural needs evidenced in your bill and look forward to working with you and your staff to ensure that competitive bidding does not jeopardize universal service or rural Americans' access to either existing or new radio services and technologies.

That concludes my statement. I'll be happy to answer any questions.

Senator INOUYE. Thank you very much, sir. And now may I call on the president of the National Association of Business and Education Radio, Mr. Kitchen?

STATEMENT OF JAY KITCHEN, PRESIDENT, NATIONAL ASSOCIATION OF BUSINESS AND EDUCATIONAL RADIO

Mr. KITCHEN. Thank you, Mr. Chairman. Mr. Chairman and members of the subcommittee, it is a pleasure to appear before you today to testify on behalf of the land mobile communications industry. NABER is a nonprofit trade association, and its members are committed to promoting the evolution of the private mobile communications industry, and ensuring state-of-the-art service to American businesses.

NABER represents businesses from all facets of the our industry. Our more than 2,600 members include private carrier paging and specialized mobile radio system owners and operators, manufacturers, dealers and service shops, site owners and managers, and more than 400 end users.

NABER has long been well-known as a champion of efficient spectrum management. For the past 23 years, NABER has been the recognized frequency coordinator for the business radio service, coordinating more than 30,000 applications a year for the Federal Communications Commission.

Because NABER has hands-on experience dealing with spectrum issues and is in direct contact daily with spectrum users, I welcome this opportunity to participate in the hearing on the emerging Telecommunications Act of 1993.

As you may recall, Mr. Chairman, I was pleased to be asked to appear before this subcommittee in the 102d Congress, and have spent the past year working with your staff on this important matter. We greatly appreciate your leadership in addressing the critical need to secure additional radio spectrum for America's rapidly advancing telecommunications needs.

NABER members pride themselves on their ability, as a broad-based, interactive association to look to the future and confidently affect change, thereby better serving their customers.

Our members believe that without the assignment of the additional spectrum cited in S. 335, their ability to offer state-of-the-art services would be greatly diminished. As such, we are very enthusiastic regarding the reallocation of this spectrum, and believe that its expeditious release for commercial use will unequivocally better serve the public good.

Over the years, NABER has consistently expressed concerns on behalf of its members with regard to the implementation of a competitive bidding process. However, we acknowledge your findings that the current spectrum assignment procedures, comparative hearings and lotteries, can be expensive and time consuming, can strain the resources of the FCC, and can result in an inefficient distribution of spectrum and an unjustified windfall to speculators.

We also recognize that our Nation's debt has grown into an issue that must be resolved, and that our Treasury is in great need of new sources of revenue.

A great deal of progress has been made during the past two Congresses in terms of addressing our concerns regarding competitiveness, and I appear here today to appreciatively note the current bill's proposal to give appropriate consideration to small businesses that want to participate in the competitive bidding process.

NABER encourages this subcommittee to continue advocating measures to ensure a level playing field for all industry entities, regardless of size, before implementing competitive bidding as a spectrum assignment mechanism.

And I would note at this point that I am particularly pleased to hear the questions from the subcommittee this morning with respect to small businesses.

NABER support's the bill's proposal that the competitive bidding authority provided by the commission not extend to license renewals and modifications, public safety, private radio licensees, and SMR end users. For a segment of our membership, these proposed exemptions will be very helpful. And, again, we value greatly the dialog that resulted in these changes.

However, I must clarify that although the current bill before us addresses many of our concerns, a large portion of our small entrepreneurs would not be protected from potential unfair competition unless further changes are made.

With this remaining concern regarding competition stated, we acknowledge this bill's apparent intent to be fair to small businesses and encourage a similar open-mindedness with regard to our concerns regarding implementation.

Realizing the serious implications of this matter, and that there are no simple solutions, we at NABER created a special, cross-industry task force to address viable alternatives to competitive bidding that could result in a win-win scenario for both our industry and the government.

Last October, we held panel discussions with Mr. Chapados, then Assistant Secretary of NTIA, and senior staff of FCC Chairman Sikes. During those discussions, it was apparent that the most developed concepts the Commission has for implementing a bidding process are found in the PCS rulemaking on which it is still seeking comment.

Although the Commission's efforts are to be commended, they are just now focusing on the generalities of the competitive bidding process. Still unknown is their ability to actually implement such a process. In a sense, it is similar to the situation faced by the folks in Alabama after this weekend's blizzard. They know they need to dig themselves out but lack the experience or tools to do it.

Over the past 20 years, the FCC gallantly struggled with myriad of regulatory burdens. In many cases, we have all reaped the rewards from their successes, and in the remaining cases, hopefully we have learned from their defeats. After all, lotteries as a concept had potential for success. The problem surfaced in implementation.

Competitive bidding could face a similar problem in that its success or failure will also lie in the implementation. Therefore, NABER implores the subcommittee to iron out the details before moving the bill forward.

I do not appear here today as a nay-sayer regarding the current proposal at hand. Rather, I appear here as an advocate of an industry that wants to continue in its growth. We support your efforts to foster emerging technologies, and we support Congressional oversight.

Therefore, Mr. Chairman, on behalf of NABER and our aforementioned task force, I conclude by saying that we look forward to

sharing with you any insights that we can offer to assure an equitable outcome for all. Thank you.

[The prepared statement of Mr. Kitchen follows:]

PREPARED STATEMENT OF E.B. "JAY" KITCHEN

Mr. Chairman and members of the Subcommittee, it is a pleasure to appear here before you today to testify on behalf of the land mobile communications industry. I am Jay Kitchen, president of the National Association of Business and Educational Radio (NABER). Briefly, NABER is a not-for-profit national trade association, headquartered in Alexandria Virginia, committed to promoting the evolution of the private mobile communications industry, and ensuring state-of-the-art service to American businesses. NABER represents businesses from all facets of our industry. Our more than 2,600 members include private carrier paging (PCP) and specialized mobile radio (SMR) system owners and operators, manufacturers, dealers and service shops, site owners and managers, and more than 400 end users.

NABER has long been well known as a champion of efficient spectrum management. For the past 23 years. NABER has been the recognized frequency coordinator for the Business Radio Service—coordinating more than 30,000 applications a year for the Federal Communications Commission (FCC). We look forward to continuing in this role as our participation in shaping the industry's future continues to expand.

Because NABER has hands-on experience dealing with spectrum issues and is in direct contact daily with spectrum users, I welcome this opportunity to participate in this hearing on the "Emerging Telecommunications Act of 1993" to reallocate additional government-held spectrum, including the revenue-generating proposal that is on the table.

As you may recall, Mr. Chairman, I was pleased to be asked to appear before this Subcommittee in the 102nd Congress and have spent the past year working with your staff on this important matter. We greatly appreciate your leadership in addressing the critical need to secure additional radio spectrum for America's rapidly advancing telecommunications needs. NABER members pride themselves on their ability as a broad-based, interactive association to look to the future and competently effect change, thereby, better serving their customers. Our members believe that without the assignment of the additional spectrum cited in S. 335 their ability to offer stab of-the-art services would be greatly diminished. As such, we are very enthusiastic regarding the reallocation of this spectrum and believe that its expeditious release for commercial use will unequivocally better serve the public good.

Over the years, NABER has consistently expressed concerns on behalf of its members with regard to the implementation of a competitive-bidding process. However, we acknowledge your findings that "the current spectrum assignment procedures—comparative hearings and lotteries-can be expensive and time consuming, can strain the limited resources of the FCC, and can result in an inefficient distribution of spectrum and an unjustified windfall to speculators." We also recognize that our nation's debt has grown into an issue that must be resolved and that our treasury is in great need of new sources of revenue.

A great deal of progress has been made during the past two Congresses in terms of addressing our concerns regarding competitiveness, and I appear here today to appreciatively note the current bill's proposal to "give appropriate consideration to small businesses that want to participate in the competitive-bidding process." NABER encourages this Subcommittee to continue advocating measures to ensure a level playing field for all industry entities, regardless of size, before implementing competitive bidding as a spectrum assignment mechanism.

NABER supports the bill's proposal that "the competitive-bidding authority provided to the Commission in paragraph (1) shall not extend to—license renewals and modifications * * * amateur operators * * * public safety services * * * private radio end-user licenses, such as SMR, maritime, and aeronautical end-user licenses. * * *" For a segment of our membership, these proposed exemptions will be very helpful and, again, we value greatly the dialogue which resulted in these changes. However, I must clarify that although the current bill before us addresses many of our concerns, a large portion of our smaller entrepreneurs would not be protected from potential unfair competition unless further changes are made.

Let me give you an example. In the SMR industry, where channels are assigned on an exclusive basis, more and more instances arise where there are more applicants than frequencies. Many of these applicants are small communications entrepreneurs in rural areas with limited needs for spectrum, and in many instances an additional five channels is all they require. Likewise, as our industry has evolved,

major SMR players currently dominate the urban environment and are expanding into these rural areas. Our concern, Mr. Chairman, is centered around the local entrepreneur who may be forced to bid against the SMR giants of our industry.

With this remaining concern regarding competition stated, we acknowledge this bill's apparent intent to be fair to small businesses and encourage a similar open mindedness with regard to our concerns regarding implementation.

Realizing the serious implications of this matter and that there are no simple solutions, we at NABER, ourselves, created a special cross-industry task force to address viable alternatives to competitive bidding that could result in a win-win scenario for both our industry and the government. Last October we held panel discussions with Mr. Chapados, then Assistant Secretary for Communications and Information at the National Telecommunications and Information Administration (NTIA), and senior staff for FCC Chairman Sikes. During those discussions it was apparent that the most-developed concepts the Commission has for implementing a bidding process are found in the PCS Rule Making on which it is still seeking comment. Although the Commissions' efforts are to be commended, they are just now focusing on the generalities of a competitive-bidding process. Still unknown, is their ability to actually implement such a process. In a sense it's similar to the situation faced by the folks in Alabama after this weekend's blizzard. They know they need to dig themselves out, but lack the experience or tools to do it.

Over the past 20 years, the FCC gallantly struggled with a myriad of regulatory burdens. In many cases we have all reaped rewards from their successes, and, in the remaining cases, hopefully, we have learned from their defeats. After all, lotteries, as a concept, had potential for success. The problem surfaced in the implementation. Comparative bidding could face a similar problem in that its success or failure will also lie in the implementation. Therefore, NABER implores the Subcommittee to iron out the details before moving the bill forward.

I do not appear here, today, as a "nay sayer" regarding the current proposal at hand, rather I appear here as the advocate of an industry that wants to continue in its growth. We support your efforts to foster emerging technologies and we support Congressional oversight. Therefore, Mr. Chairman, on behalf of NABER and our fore-mentioned task force, I conclude by saying that we look forward to sharing with you any insights that we can offer to assure an equitable outcome for all involved.

Senator INOUYE. Thank you very much, Mr. Kitchen. Now may I call on Mr. Foosaner?

STATEMENT OF ROBERT S. FOOSANER, SENIOR VICE PRESIDENT, GOVERNMENT AFFAIRS, FLEET CALL, INC.

Mr. FOOSANER. Thank you, Mr. Chairman. I am here on behalf of Fleet Call, a company which is the answer to a number of the Senator's questions earlier today.

Fleet Call was founded in 1987. It started with zero dollars, raised funds, and entered the wireless communications market. As a significant player in that market we are totally supportive of the legislation to reallocate and auction spectrum. We are supportive of reallocating the spectrum with a reasonable timeframe for the Government users to relocated so that additional problems do not occur. The 10- to 15-year timeframe for reallocation we feel is appropriate.

We are supportive of the stated goal of the legislation to utilize the reallocation for new technologies and greater efficiencies. One way to achieve that, in response to Senator Burns' question, is what Fleet Call has done. On its own licenses, without additional spectrum, it is implementing technology, increasing efficiency by 15 times without coming to you for more spectrum.

Unfortunately, that is not an answer for everybody, so we are here to recommend to you that the legislation be slightly amended to have full auction authority for the Commission covering all but the excepted services.

We believe the FCC should be authorized to auction immediately everything with the exception of broadcasting, radio astronomy, amateur radio services, and public safety services. We believe that will accomplish three things: one, assure the fullest and best use of the spectrum with rapid implementation, two, compensate the American public for the use of resource that belongs to the American public, and three, help reduce the Federal deficit.

Early today, you discussed $3 to $5 billion being raised as a result of this implementation. We do not believe that is possible from this legislation. The spectrum in this legislation is going to be a 10- to 15-year relocation process. We believe $3 to $5 billion can be raised if you give the FCC authority to auction PCS across the board—not 30 MHz, but all 120 MHz.

If you wish to raise money from auctions in the next 5 years, PCS is the main source. What it will do is promote the more efficient technology that you have been told in other hearings will come from PCS.

Since others are being displaced as a result of the introduction of PCS, we think they are entitled to the introduction of new and higher technologies, not just the replication of existing services.

Finally, in order to do that with PCS you must have multiple licensees on a local basis. With open ability to enter the market we are totally supportive of what we heard from McCaw and believe that auctions is the key for technological success to the year 2000.

We are available to answer any questions you have.

[The prepared statement of Mr. Foosaner follows:]

PREPARED STATEMENT OF ROBERT S. FOOSANER

Mr. Chairman and Members of the Subcommittee, my name is Robert S. Foosaner. I am Senior Vice President for Government Affairs of Fleet Call, Inc. Fleet Call appreciates the opportunity to participate in this hearing concerning the "Emerging Telecommunications Technologies Act of 1993." The proposed legislation would reallocate Federal government radio spectrum for commercial services using new spectrum-based technologies and would authorize the Federal Communications Commission ("FCC") to use competitive bidding as an alternative licensing procedure. Fleet Call's testimony primarily addresses using competitive bidding or auction procedures to select communications licensees.

Fleet Call has consistently promoted competitive bidding to license advanced wireless communications systems. For example, Fleet Call endorsed previous legislative initiatives to grant the FCC auction authority. It proposed last year that the FCC auction unused SMR spectrum for a nationwide SMR network, advocated auctions to grant nationwide licenses for the new 220 MHz private carriers, and argued for competitive bidding to license providers of new Personal Communications Services ("PCS"). Competitive bidding will assure that scarce spectrum resources are made available to those who will put them to their highest and best use. It also will generate billions of dollars in licensing bid receipts for the United States Treasury—thereby promoting the Administration's important deficit reduction objectives.

Fleet Call was formed in 1987 and has quickly become one of the largest licensees and operators of Specialized Mobile Radio ("SMRV") systems in the country. Fleet Call operates as a private carrier under Part 90 of the FCC's Rules providing dispatch, interconnected, data and ancillary mobile communications services to approximately 140,000 customers on both 800 MHz and 900 MHz SMR systems. Fleet Call's customers are businesses, such as delivery services, utilities, plumbers, electricians and other service and repair personnel, as well as ordinary individuals, that rely on mobile radio communications to "stay-in-touch" with their offices and customers and to help them do their jobs more efficiently.

We are privileged today to be witnessing unprecedented and remarkable innovations in wireless communications. Advances in technology, particularly digital multiplexing techniques and the public's increasing demand for ubiquitous nationwide mobile communications capabilities, are the driving forces behind a wide range of

new wireless communications services that over the next decade will change the ways we communicate, conduct our daily business and our very lifestyles.

Fleet Call is a pioneer in this revolution. In response to the public's need for advanced high quality mobile communications, Fleet Call is building Digital Mobile Networks in Chicago, Dallas, Houston, Los Angeles, New York and San Francisco. These Digital Mobile systems will combine state-of-the art digital multiplexing technology with a low power, multiple base station configuration to increase by more than 15 times the capacity of Fleet Call's existing SMR systems in each market on its already-licensed channels without additional spectrum allocations. They will provide customers with improved reception and transmission quality, customized dispatch, mobile telephone and paging services, mobile data capabilities and, importantly, improved privacy and security.

These are striking advances. And they respond directly to what Fleet Call has learned in extensive market research since 1987. It is not "digital" technology her se that excites people. Convenience does. Simplicity does. Integrating a variety of services does. Intuitive, customer friendly design, immediate access and functionality excites people. These are the benefits that Fleet Call's Digital Mobile systems are bringing to mobile communications.

Fleet Call will turn on its first Digital Mobile system in Los Angeles in late 1993, followed by San Francisco in early 1994 and New York shortly thereafter. We are committed to promoting regional and national Digital Mobile service to meet the communications needs of trucking and other wide-area users and for roaming. Our merger with Dispatch Communications, Inc. will add New England, Philadelphia, Baltimore/Washington, Minneapolis, and parts of Arizona to Fleet Call's Digital Mobile networks. We are acquiring spectrum throughout Florida to offer Digital Mobile service in that high demand market. And as a member of the Digital Mobile Network Roaming Consortium, Fleet Call is actively promoting construction of compatible enhanced digital SMR systems in other large metropolitan areas to assure convenient roaming throughout much of the Nation.

As a pioneer in the wireless revolution, Fleet Call supports the proposed legislation reallocating 200 MHz of spectrum from government to commercial use involving new innovative technologies. Spectrum is the key to bringing innovative new radio services and effective competition to the marketplace to benefit the American people. Fleet Call has, in effect, "created" additional spectrum through developing technology that uses the existing SMR spectrum far more efficiently than ever before. Fleet Call's frequency-agile Digital Mobile technology makes it possible to create new, integrated wide-area mobile radio systems by sharing existing radio frequencies with other licensees.

Spectrum is needed for High Definition Television so that existing broadcasting services are not adversely impacted by implementation of this new technology. Additional spectrum is also needed for public safety providers to implement state-of-the art communications systems for critical law enforcement, emergency and disaster response capabilities.

Fleet Call recognizes, however, that reallocating spectrum from the federal government for emerging technologies will not occur overnight. It will take three to fifteen years based upon the necessary transition period, defense and security concerns and budgetary impact on the Federal government users.

PCS licensing, however, is just around the corner. Congress can best assure that currently available spectrum is licensed to those PCS providers who will use it most efficiently and effectively by granting the Commission auction authority for existing spectrum now. Authorizing the FCC to use competitive bidding to license PCS providers will virtually eliminate speculation and promote the prompt delivery of innovative services to customers. It would also compensate the American public for granting private entities the right to profit from using PCS spectrum and contribute immediately to reducing the federal budget deficit. The American people would be ill-served by permitting this revenue-raising opportunity to be missed.

FLEET CALL SUPPORTS THE PROPOSED COMPETITIVE BIDDING TEST PROGRAM

Fleet Call enthusiastically supports the provisions in the proposed legislation authorizing a competitive bidding test program—but it does not go far enough. The proposal would authorize the FCC to grant initial licenses using competitive bidding for a three-year "test" period, subject to continuing Congressional oversight through annual Appropriations Act confirmation. Competitive bidding could be used in licensing not more than 30 MHz of frequencies in up to three different services. The FCC would be free to select the services, provided that over-the-air radio and television, public safety, government licensees, radio astronomy, SMR end-users and amateur radio operators would be exempt from competitive bidding.

This would be a valuable first step toward granting the FCC permanent authority to assign radio licenses through competitive bidding procedures. However, a first step is unnecessary. Fleet Call urges you to go further and expressly authorize the FCC to use competitive bidding for all licensing except public safety, radio astronomy, amateur radio, and broadcasting. The first opportunity to use competitive bidding, and the only realistic opportunity to raise significant funds for the U.S. Treasury in the next three to five years, is in licensing PCS providers using auctions.

Fleet Call has consistently supported competitive bidding to assign radio licenses. Last year, Fleet Call supported the Staff Draft of the Spectrum Competitive Bidding Amendment to S. 218—the predecessor to the proposal under consideration today. At the FCC, fleet Call submitted a far-reaching proposal to auction "innovator blocks" of vacant 800 MHz SMR spectrum in markets throughout the country to accelerate creation of a ubiquitous, nationwide digital SMR network. It also supported competitive bidding as the optimum method to select licensees for the new nationwide 220 MHz private carrier authorizations—in response to FCC concerns that speculators would receive these valuable licenses. Fleet Call is also a leading proponent of competitive bidding to select PCS licensees.

In Comments supporting the Spectrum Competitive Bidding Amendment to S. 218, Fleet Call stated that competitive bidding is the most efficient and effective way to promote the rapid availability of innovative new wireless communications services. Fleet Call reasserts that competitive bidding is the optimum way to control the rampant speculation that infects the FCC's lottery licensing processes, reward sincere applicants and assure that spectrum rights are expeditiously granted for advanced communications systems. in addition, auctions would generate billions of dollars for the United States Treasury if used to license PCS—a fact confirmed by the Congressional Budget Office. This would compensate the public for awarding private entities the opportunity to profit from using public resources and contribute to the new Administration's essential deficit reduction efforts.

As I mentioned a moment ago, Fleet Call proposed that the FCC seek Congressional authorization for a pilot program to auction innovator blocks of vacant SMR spectrum to accelerate creation of a nationwide SMR network. Existing licensing mechanisms would delay and inhibit the development of nationwide SMR systems. Lotteries would inevitably invite massive speculation and subsequent "private auctions" as lucky lottery selectee speculators sell their licenses to bona fide service providers. Comparative hearings, while more effective in preventing speculation, are costly, time consuming and administratively burdensome.

Fleet Call understands that the proposed legislation would authorize competitive bidding for licensing 800 MHz SMR innovator blocks. Unfortunately, the FCC dismissed Fleet Call's proposal last December, finding that it "* * * currently lack[s] explicit authority to award licenses through auctions and we have seen no indication as to when we might receive such authority." Almost four months later, the FCC is still attempting to develop an effective approach to facilitating wide-area SMR licensing.

The FCC's dismissal of Fleet Call's innovator block proposal for lack of auction authority is a lost opportunity to most effectively accelerate the availability of advanced mobile communications services throughout the country. And it will happen again and again unless Congress provides a clear directive authorizing the FCC to implement competitive bidding. The FCC's recent proposal to authorize regional and national SMR systems at 900 MHz, and the PCS rulemaking proceeding, are two instances where the public interest will be shortchanged unless the FCC obtains competitive bidding authority for these services.

THE PROPOSED LEGISLATION SHOULD AUTHORIZE THE FCC TO USE COMPETITIVE BIDDING TO SELECT PCS PROVIDERS

In its Notice of Proposed Rulemaking concerning PCS licensing rules and policies, the FCC sought comments on whether lotteries or competitive bidding (if authorized by Congress) is the most appropriate PCS licensing mechanism. The FCC's experiences with lotteries have repeatedly demonstrated that speculation and abuse cannot be prevented when it "gives away" valuable spectrum rights. "Lotteries" inevitably invite speculation which leads to abuse. As an FCC Administrative Law Judge recently stated in reference to the cellular lotteries:

> "When it adopted a lottery allocation program, the Commission must have been aware that it was extending an open invitation to every gambler, speculator and confidence man within reading distance."

Any time a spectrum franchise is awarded for nothing, it will attract creative entrepreneurs devising innovative ways to "stack the deck" in hopes of a license award bonanza. Lottery reforms such as engineering plans, business plans and "firm finan-

cial commitments" have already been tried in the cellular licensing and 220 MHz proceedings and found wanting. These measures have failed to prevent speculation and application abuse. The results of lotteries are "secondary" auctions with a windfall that should have gone to the U.S. Treasury going to the lucky ticket holder. No proposal to "fix" the lottery mechanism can address the fundamental inefficiencies and distributional problems of lotteries, which allow private parties to obtain a windfall from the award of a Commission license by selling those licenses in the secondary market.

Moreover, using lotteries to select PCS licensees Is irreconcilable with the FCC's commitment to a broadly-defined personal communications service using developing emerging technologies. Lotteries may be appropriate when there are insignificant differences among mutually exclusive applicants proposing essentially similar services and meeting basic qualifying standards—which the FCC concluded was the case with cellular applicants.

This is obviously not the case for personal communications services, however, in which various applicants propose differing services ranging from wireless replacement for ordinary residential and office telephones to devices capable of sending and receiving voice and data to and from virtually anywhere. There will and should be significant technical or other substantive differences among prospective PCS applicants—difference which make random selection unsuitable.

The FCC has defined PCS as a "family" of services incorporating different innovations and technological advancements to expand the number and types of wireless telecommunications services available to the American public. They include advanced dorms of cellular telephone service, portable facsimile services, wireless private branch exchange services, wireless local area network services and others. The FCC has characterized these prospective services as "revolutionary," but without competitive bidding authority will be forced to randomly select PCS licensees to provide these innovative, untried and in many cases dissimilar services. Common sense dictates that the FCC's vision of a rich, diverse family of competitive personal communications services will not be realized if PCS licensees are selected by random chance.

Over the past two years, the FCC and interested companies have come before this Committee seeking your support of expedited licensing of personal communications systems. They promised competition and innovation. They asked to disenfranchise existing licensees to make this possible and asked your acquiescence in this undertaking. Now a number of the same interested companies are saving that there should only be two PCS licensees in a few very large markets and that each should get 40 MHz of spectrum to provide cellular clone-type services. And they want it for free!—i.e., through lotteries, presumably so they can work out deals with speculators to obtain the licenses they want. Meanwhile, Fleet Call on significantly less spectrum is increasing its capacity 15 times without displacing others or receiving a government handout.

This is not the competitive PCS industry that was promised with a number of innovators using spectrum efficiently. It is disingenuous to believe that the promise of PCS will be readily achieved—if at all-- by random selection of a few PCS providers each getting almost as much spectrum as seven television stations. Competitive bidding will reveal the bona fide PCS providers. Only those who are truly ready to "put up" the resources needed to implement PCS will survive the bidding process.

In short, competitive bidding is the optimum tool to license mutually exclusive applicants proposing new and diverse PCS services. Competitive bidding will virtually eliminate speculation and best assure that licenses go to those who value them the most and have the greatest incentives to effectively and expeditiously initiate service. It would accelerate the pace of innovation by assuring that "productive innovators" have access to the spectrum they need to implement their innovations.

In addition, as noted above, PCS auctions would generate very substantial revenues for the United States Treasury thereby compensating the American people—as opposed to "lucky lottery winners"—for the use of valuable public spectrum resources. I urge you to move expeditiously to authorize the FCC to use competitive bidding to select PCS licensees as well as other radio licensees as authorized in the proposed legislation.

Fleet Call appreciates this opportunity to appear before you today and looks forward to working with Congress to assure the availability of spectrum to accommodate advances in wireless communications services and to authorize competitive bidding licensing procedures.

Senator INOUYE. Thank you very much, Mr. Foosaner.

First, I would like to thank the panel for your very insightful testimony.

Mr. Perry, do you have any thoughts on a spectrum fee? Senator Stevens, for example, suggested more funds are necessary to help the FCC to set up monitoring facilities and such to conduct oversight.

Mr. PERRY. This would be a fee, Senator, on existing licensees or just the new licensees.

Senator INOUYE. It would be for all.

Mr. PERRY. I think the hard part in this environment is if you try to tax it incrementally as you go along, because then it is going to be difficult for us. It is just going to take capital out of our growth and expansion and put it toward the fee.

I think if there are fees designed to support the FCC and the process, I think that is something the industry can work with, but revenue-raising fees are just going to mean that the national information infrastructure does not get built that much faster.

Senator INOUYE. Do the others have any thoughts on that? Yes, Mr. Fritts.

Mr. FRITTS. Mr. Chairman, the FCC is currently collecting fees somewhere in the $35 to $40 million a year range from all users of the spectrum. This is a cost-of-regulation fee, as they call it.

Unfortunately, that money is not allocated back to the FCC budget. It goes directly to the general Treasury and does not apply to FCC operating costs or expenses. The current Commission budget I think is somewhere in excess of $115 to $120 million, somewhere in that area.

So, already the users of the spectrum through their transactions are paying cost-of-regulation fees for about one-third of what it takes to operate the Commission but neither we nor the Commission get credit for that, because from some mechanism it goes directly to the Treasury and is not applied against the FCC budget.

Senator INOUYE. Well, we will do our best to change that, sir.

Mr. Nelson, you suggested that the 2,500 number may be unrealistic. What number would you provide?

Mr. NELSON. Well, Senator, the Rural Coalition has talked for at least the last year about a number in the neighborhood of 10,000. My understanding is that others have come forward with some studies fairly recently that looked at a number of 20,000, and so I think there is room for some further discussion there, but certainly the 10,000 I think would be an absolute minimum that would help us in our concerns.

Senator INOUYE. I am certain you realize this committee is stacked with rural America. [Laughter.]

There is lots of rural America, so you just let us know, that is all. [Laughter.]

Mr. NELSON. We will certainly do that, Senator.

Senator EXON. You do not get an offer like that very often. [Laughter.]

Do you others have any problems with that, of taking care of rural America? [Laughter.]

Senator STEVENS. Would you yield?

Mr. Chairman, if we may, let us make sure we understand now what Mr. Nelson is saying. The bill says that an area is rural if it does not contain an incorporated area of more than 2,500 people.

Mr. NELSON. Yes, sir.

Senator STEVENS. Now, it is my understanding that you want to go to 20,000 but not with the same concept here. I mean, what is rural in terms of this definition would be rural if it did not have population of up to 20,000, or an incorporated area of 20,000? Which are you saying?

Mr. NELSON. The 20,000 figure, Senator, is not my figure. It is one that I understand has been argued on the part of some people as a reasonable figure, and I cannot really speak to the definition that would be included there. The Rural Coalition has looked at a figure of 10,000 using the current definition that is in the bill.

Senator STEVENS. You have an area that within its boundaries contains not more than 10,000, and you are saying once again an area that in the total area there is not an incorporated area that is greater than 10,000, is that right?

Mr. NELSON. Yes, sir.

Senator STEVENS. But there is no regard to how many people are in the total area, you realize that?

Mr. NELSON. Yes, sir.

Senator STEVENS. You could have 100,000 people out there in an area that is rural as long as there was not one area that had 2,500 people in an incorporated area under that definition today.

Mr. NELSON. Yes, sir, and I think there needs to be more work done on the definition.

Senator STEVENS. Well, in my way that is every place in the State except seven cities.

Mr. NELSON. That is about true in Nebraska, too, sir.

Senator STEVENS. I think we ought to get together and really understand what we are doing, because it could be a much greater area. It could be the really rural area which is the population base of Connecticut except for two areas, I think. I think we really ought to get together.

I agree with the chairman. We are prepared, I think all of us, to protect the rural areas and have the provisions—there are some special provisions here that protect the rural areas and give the Commission special duties in that area, but it could be an awful big area if we are not careful what we are doing.

Mr. FOOSANER. Mr. Chairman, one point I would like to add is that we would like to support the rural areas, but unless the FCC does licensing on a multiple area basis, such as for cellular it is 734 areas, you will not have any rural areas to protect. If the FCC went with 47 trading areas, there would be no rural boundaries to protect, so I think that is something the subcommittee needs to look at.

Senator INOUYE. Thank you for that. The other matter that we will have to consider, if 30 is the proper number, 30 MHz? Should it go up to 60, or 90, as Senator Stevens suggested, or 120? Mr. Foosaner.

Mr. FOOSANER. Mr. Chairman, there is no reason at the present time to put a limitation on what the FCC's authority can do. I think you have the oversight capability and exercise that capability to review what the FCC does. Protect the services that should be protected from auction, then give the FCC the authority to implement it as it sees fit, and review it periodically. I do not believe

you must put a number limitation on the MHz that should be applied under auctions. It should be open authority.

Senator INOUYE. Yes, sir. Mr. Kitchen.

Mr. KITCHEN. Mr. Chairman, the concern that we would have that if there is unlimited spectrum in the auction that the provisions to report back to Congress as to the effect on small businesses would need to be strengthened, so there is hope on the part of small businesses that they are not going to get locked out in the immediate future and that there would be spectrum available for their growth, particularly in the rural areas.

Senator INOUYE. Are you satisfied, Mr. Kitchen, with Dr. Stanley's contention that the FCC can carefully tailor regulations to make certain that small business is protected?

Mr. KITCHEN. Certainly. The comments that Dr. Stanley made this morning are very encouraging. We look forward to working with him to see exactly what he might have in mind to protect the small businessman.

Senator INOUYE. Do any of the others have views on the question of 30 MHz?

Mr. PERRY. Well, Senator, I think that last year when you and Senator Stevens were crafting your compromise I think there was hope that that 30 MHz block would be the first out of the gate so that that would be its own experiment.

I think since that time the FCC has moved—the legislation was not passed and things seem to be moving quite quickly at the FCC, and I think that we also have increased evidence of the utility of the lottery process. Last week we had a lottery for unserved areas in 27 areas in the United States, and there were over 5,000 applications.

One Washington, DC, law firm prepared 200 applications for its clients, including lots of Washington, DC, lawyers and even a former Washington Redskin. So, the lottery process continues to be flawed, and it may be time to relook at that issue.

Senator INOUYE. Thank you, Mr. Perry. Senator Stevens.

Senator STEVENS. Mr. Nelson, I do think that we would welcome sort of a consensus-type meeting to redefine this rural exemption so that it does not get into the problem.

As I understand it, you take a State like mine, that might have three areas within an area applied for by a major common carrier. All three of these areas have a license for telephone exchange service today and currently have no incorporated place of more than 2,500 people.

Those three areas would have to be excluded from the larger area, as I understand it, and only those people that have the existing telephone exchange service could be granted authority under this bill.

Now, we need to take a look at that because of the bedroom communities that exist around so many major metropolitan areas to see where we are really going if we raise it to 20,000 or 10,000. Currently, the 2,500 is the means of reducing those who are eligible for that specific treatment for rural.

Second, Mr. Chairman, I am going to steal the thunder from the Senator from Montana. It is good to see, on St. Patrick's Day, Edward O. Fritts here this morning.

Senator BURNS. You did take my line. [Laughter.]

Senator STEVENS. I did take your line. I liked it, so I just stole it.

Mr. Kitchen, I want to tell you that those of us that come from the cold country where there is lots of snow do not wait until the snow is over before we start digging out our cars or our roads or driveways, whatever it might be.

I, for instance, was out three to four times clearing my cars, my driveway, and my sidewalk. I really did not clear the driveway in this one. There is just too much snow. We have four-wheel drive and we go over that snow. You will have to learn that one.

But I only mention that to you because I do not think the concept works here in waiting for the small business situation to bog down so much that we have to give anyone authority to dig it out. We envisioned an intent in this bill, an understanding of the FCC of that intent that small business protection was built into this concept. We have tried our best to do that, and if you have any other suggestions how we might carry out that intent with the legislative language—and I am inclined to think that a lot of people ignore legislative history, but the legislative history on this bill is clear that we were trying to protect small business, trying to protect particularly existing small business to make sure they were not put out of business by the authority that comes under this act and by some of those that might get the licenses by competitive bid.

I just want to state to you, if you have any comment about it, that I would be happy to have it. I think we have protected it. I think the intent is in this legislation that small business is intended to totally be protected, and existing small business in particular.

Now, if you have some suggestions again I would welcome your suggestions to come forward now, because I think the bill is going to pass this year. Last year, I thought we were still trying to get our foot in the cold water. The water is very warm, and I think we are going to see a bill pass this year, and there is a realization of what it means to PCS.

I think without this bill PCS cannot go forward. I think the FCC would be so bogged down under existing law that it could not proceed to give us this new technology and give us the advantages there.

I think Mr. Fritts has got a point in terms of how we try to make certain that existing businesses, large or small, are not harmed by this legislation, but I do think that we ought not to stand in the way of being able to develop within our own country a new, vibrant industry that is coming with PCS.

This legislation is on a fast track as far as I can see, so I would urge you all to come forward and give us some suggestions, if you have any suggestions, as to how to improve this legislation.

Am I stating it wrong, my friend?

Senator INOUYE. No.

Senator STEVENS. This train is leaving the station, and it is a bullet train. It is a bullet train.

Mr. PERRY. Senator, I would just recommend again that there be multiple licenses and small license areas. I think that is a way to ensure participation of small businesses.

If we get bogged down in a rulemaking of what is a small business it might slow things down, where if the area is small enough I think it will be self-policing and you will put in place the structural aspects of that.

Because when the FCC recently introduced rulemaking with respect to what is a pioneer, all the Washington lawyers visiting the Commission were dressed in buckskin and with coonskin hats and carrying a flintlock, and I think we will see the same thing with small businesses, and I think the solution is at least five licenses and small license areas.

Senator STEVENS. Well, if you have suggestions for definitions or changes, I think you all should come forward with them very quickly, and I think—from my point of view, I think I speak for others here also from rural America. We would like to have competition in rural America. But we do not want rural America to be subsumed by those entities that come out of the megapolises that forget who we are.

We know who we are. We just want to make sure that we have competition within our area. "Managed competition" is a favorite word around here today, you know?

Thank you, Mr. Chairman.

Mr. KITCHEN. Senator Stevens, certainly, as I said, the words that Doctor Stanley spoke this morning were encouraging. We just want to make sure that in this process the FCC does not become that four wheel drive vehicle that just plows right over the snow-laden small businesses out there. And as I mentioned, we have worked with your staff in the past year very successfully. And it sounds like, from the questioning this morning, that you all are very much aware of our plight, and we appreciate that.

Senator INOUYE. Thank you. Senator Burns.

Senator BURNS. Thank you, Mr. Chairman. I cannot believe Senator Stevens stealing my line, Mr. O'Fritts.

Mr. FRITTS. Well, both Senators should know that my grandmother, in fact, is Irish.

Senator BURNS. There was always, I think, a little saying up in our part of the country that an Irishman is nobody but a Scotsman with his brains kicked out in the first place. [Laughter.]

That is the way I always escaped that I was on the Scottish side of the channel. I mean, that is all right. Today is a great day to be in Butte, MT, I will tell you that, and I would like to be there rather than here.

Mr. Perry, I am interested, and we can all talk—Mr. Nelson, too—about rural, what is rural and what is not. And I would imagine those people that live in New York think if you live in Dallas you live in the rural areas. And those who live in Dallas probably think Denver is rural and Denver would think Billings would be rural, and so everything is relative here. And I think we will have to try to identify that.

But, Mr. Perry, along with that, would you favor an amendment in this bill that would preempt State regulation of wireless telecommunications?

Mr. PERRY. I think that the best way for the wireless infrastructure to proceed is the national standard. And we will get bogged down if each State can, in effect, slow us down and overburden us

with regulation. I think that there needs to be Federal regulation, there needs to be some of the attributes of common carriage applied to all wireless providers, foreign ownership restrictions, anti-discrimination provisions, and similar attributes. But it would appear to us that a nationwide standard, that would be the best way to go.

Senator BURNS. Well, I feel that as my friend does from Alaska and the chairman of this committee, that those of us who do have rural areas that we think we need some special provisions there to keep the megapolises off of it, as Senator Stevens would say, but also have some competition in that market in rural areas because of the unique situation that it is in. And Mr. Fritts' broadcasters often acquire other stations, and I, just for the record, would just hear your explanation on this.

For example, 10 percent of the interest of WWOR in New York sold for what? Around $10 or $30 million, something like that. And the station is not even affiliated with any of the major networks, CBS, ABC, NBC or FOX, either one. And just last year, the subcommittee held a hearing on public interest obligations in broadcasting. From your perspective as a key industry leader for broadcasting industry, does the fact that individual pays money to purchase a station make a station any less qualified to serve the public interest? And I think we should go on record.

Mr. FRITTS. Senator Burns, the obligations of a broadcaster to the public, as overseen by the Federal Communications Commission, do not change. If, in fact, the ownership of the station should change, they have the very same obligations that they had before. I might add that having gone through an era where everyone said that all the industries were deregulated, the broadcast industry still today has more regulation and more red tape than virtually any business in America.

Senator BURNS. I would agree, and I would like to do something about that. And I think probably we can, in this next go-around, in this Congress if we possibly can.

That is all the questions I have, Mr. Chairman. I appreciate this hearing, and if I have some more questions I would like to be able to submit them to you gentlemen, and we thank you for coming forward today.

Senator INOUYE. Thank you, Senator. And now, may I call on rural America? Senator Exon.

Senator EXON. Thank you, Mr. Chairman, and welcome, Phil. It is good to see you again. And Eddie Fritts, I do like your tie. It will look great on camera, I bet.

Phil, let me ask you this question, and maybe the rest of you would like to comment on it. There was recently a problem raised, or a potential problem raised by the Department of Administrative Services in Nebraska that the auctioning of the spectrum process might have an adverse effect on public safety uses, frequencies, and so forth and so on. Do you believe that the bill addresses that at all? Should it be addressed?

As I take it, the State of Nebraska Administrative Services was thinking about at a minimum having the Federal Communications Commission in the beginning making an affirmative finding, if you will, for want of a better word, that frequencies proposed for auc-

tion are not—should take into consideration first and foremost as a priority need, public safety needs. Do you see any legitimate problems in that area, the way the bill is currently drawn?

Mr. NELSON. Well, I think the bill speaks to the need to exempt those agencies in the first place, and I think that is appropriate. It seems to me like the further question may well be a technical one in terms of interference problems and whatnot that may come up because of the auction process.

I guess my feeling would be that the FCC has the technical expertise to ensure that that sort of thing does not happen. Certainly, it is appropriate that whatever legislation or regulation is adopted should do everything possible to establish the safety concerns as a primary concern, and it should be done in such a way that those concerns are, in fact, taken into consideration.

Senator EXON. How about the rest of the panel? Have you thought about, or has anyone brought up to you, the matter of giving some priority to safety requirements in communications?

Mr. FOOSANER. If I may, Senator, having formerly been at the FCC and responsible for the safety services, Congress has enacted legislation which makes public safety the top priority for the FCC in allocation matters. I think the legislation is already in place to do that. And this legislation particularly emphasizes that point, so I do not think anything additional is necessary, nor do I believe interference is a real concern because the FCC, in its allocation process, only puts public safety licensees with public safety licensees. So I do not believe that is a problem vis-a-vis auctions.

Senator EXON. Let me ask you this question, and I do not know whether there is a particular problem or not but it worries me a little bit. And it may be of some concern to some of you. Not too many years ago during the public bidding procedures on this particular case, antennas for Jeeps and tanks, universal type of radio antenna like you see on a car, and one of the successful manufacturers of this for many years had been a Nebraska company. And once again, they were low bidder except for a bid that was put in by some name or company that no one had ever heard of before, and it turned out that there mailing address was a post office box in Philadelphia, PA.

In other words, here was a clear case where some entrepreneur had decided looking through the catalog of advertised needs of the Federal Government that they found it—they just threw in a bid for these antennas, based obviously on the fact that they bid very low and they figured if they were successful in getting the bid they would certainly be able to go to somebody somewhere someplace that could make this antenna cheaper than anybody else had offered it.

Now, I only use that example from the standpoint is there any concern, particularly in rural America, where we would anticipate that there would not be the strong competitive bidding for many of these services as there would be, for example, in New York City as to whether some of the deep pockets around the country someplace might not decide that it would be a good investment or a good gamble for them to go out and tie up some of these frequencies in the hopes that if Phil Nelson should need one in Aurora, Nebraska,

somewhere down the line he would have to pay them for their frequency rights. Is that a concern of yours at all, Phil?

Mr. NELSON. Well, certainly, the deep pockets concept is key to the concern of the rural coalition. My own company is interested primarily in providing newer technologies to our existing customer base, we are not interested in expanding into Lincoln or Omaha or Chicago or other places like that. And yet, the auction process, I think the competitive bidding process, opens itself if there are not some restrictions, some guidelines set up for the rural areas to—exactly what you are describing taking place.

I think the reality is that any money that is spent through the auction process or however in order to acquire the license is money that is not going to be spent on delivering the services in a timely manner.

So, that whole concept of deep pocket and the ultimate impact of that on our subscribers is key to our concern.

Senator EXON. Mr. Fritts, in the early days of radio, I do not suppose it is as much a factor today because there seems to be an awful lot of interest in any available radio frequencies, regardless of how small a community is. In the early days of radio when the frequencies were assigned by the Federal Communications Commission in the early days of the formulation of the process, was this deep pocket matter a concern in those days? Or had it been thought of to that extent back then?

Mr. FRITTS. Senator Exon, the Mass Media Bureau, which currently handles broadcast applications, has a different process. Comparative renewals apply when stations are renewing their license, if they have a challenge against them. When you file for a new station, you have to do the engineering reports and then you have to wait to see if someone else files on the same frequency, which oftentimes happens.

Then, the Commission, because of the public interest obligations that broadcasters are required to meet, has a hearing to determine who is the best qualified. So, the deep pockets really are irrelevant except for paying for the lawyer's fees. As long as they have enough money to sustain the legal fees to be in a hearing. And the FCC has a whole variety of criteria that it uses to judge the various applicants. Now, that process is lengthy and it is time-consuming and it is costly.

The question, of course, and we still subscribe to this, is does that process for radio and television licensing provide the best licensee for each community and the diversity that we all expect in America? We believe it does. To put it out for bid, to award broadcast frequencies to the highest bidder would completely undermine that whole process which has a history since 1934.

Senator EXON. My question was in the early days of radio, was there any of this matter where somebody in Cincinnati, OH and New York City would be out trying to buy a radio frequency, and I am familiar with how it operates now, from the beginning. What does history tell us about that?

Mr. FRITTS. I cannot go back beyond 1934, except to say that I understand the need for the FCC was originally realized in 1927, a body to administer the equitable distribution of frequencies

across America. But I do not think that deep pockets had any thing to do with that particular process.

Senator EXON. Let me switch to one last subject. It looks some what futuristic, possibly, but we have to look to the future, and I am wondering what the opinion of this expert panel is today on, from what I have been reading and studying, it seems that small, personal communicators are now relatively common in some of the Pacific Rim countries, particularly Hong Kong and I believe in Japan.

Is the United States behind the curve in developing and utilizing telecommunications technology? And which country has most successfully exploited and integrated the new telecommunications technologies in their system to keep them on the cutting edge? Are we behind the Pacific Rim countries on the development of so-called small personal communicators?

Mr. PERRY. Senator, I think from the perspective of the cellular industry we are not behind, and in fact, we are right on the leading edge. The personal digital assistants, or PDA's, are the kind of things we are working with with Apple and with Microsoft and with the Japanese manufacturers to supply. Their first place of introduction will likely be in the United States, and it will likely be in the various wireless delivery data systems that are being built across this country, one of the largest of which and the most ubiquitous of which is on the cellular systems that we provide, so we are not behind. We are actually implementing and rolling out a nationwide digital data network, packet data network, using our cellular spectrum which will be in place. It is already testing right now in many cities, and it will be rolled out commercially at the end of this year. So, we are right there.

Senator EXON. Is the information that I have that Hong Kong and Tokyo, particularly, were ahead of us with regard to personal communications? You do not believe that is accurate information?

Mr. PERRY. No, sir. We are one of the operators of the cellular system in Hong Kong. And we are cognizant of what is going on. This country still is on the leading edge of all of the wireless aspects. And this legislation will help us keep it that way. And I think that we are not falling behind.

Senator EXON. Gentlemen, thank you for being here. I think it has been very interesting testimony, and we need your help and advice, especially as to what has been said by the Senator from Alaska and the Senator from Hawaii with regard to proper definition of rural areas. We do not want to make a mistake in this legislation, heavily influenced with rural thinking as the chairman has so indicated. And if you can give us some additional assistance or some suggestion in that area, we will certainly take it under advisement.

Thank you, gentlemen.

Thank you, Mr. Chairman.

Senator INOUYE. Thank you, Senator.

Senator Gorton.

OPENING STATEMENT OF SENATOR GORTON

Senator GORTON. Thank you, Mr. Chairman.

I have an opening statement which I would like to have included in the record.

Senator INOUYE. Without objection.

[The prepared statement of Senator Gorton follows:]

PREPARED STATEMENT OF SENATOR GORTON

I think it appropriate that the Communications Subcommittee is quickly moving to consider S. 335, the Emerging Telecommunications Technology Act. I want to lend my strong support for the general concepts incorporated in this bill.

One cannot pick up the newspaper without reading, almost every day, about another new technological breakthrough involving the world of telecommunications. If Congress could only do one thing in this area, it should be to make sure that the efforts of innovative companies all over America are not impeded by governmental constraints.

First, it is critical that we update our use of the spectrum by freeing up more spectrum for commercial uses. This bill makes 200 megahertz of spectrum available to new emerging technologies.

The bill also allows for the assignment of spectrum to be auctioned. It provides 30 megahertz for auction over a 3-year period. My concern with this provision is simply that it is not enough. The Senate Budget Committee has recommended that the Commerce Committee raise $7.2 billion through the use of auctions over the next 5 years. While it may be impossible to know for sure how much could be raised by an auction, I have a difficult time believing that we can raise this amount with such a limited amount of spectrum. Additionally, I believe that auctions will prove so superior to our present system of lotteries and comparative hearings that there is no reason to be timid in granting the FCC the authority to move toward this method of assignment. I hope that the committee will seriously consider allowing for more than 30 megahertz to be auctioned.

Last, I want to thank the bill's sponsors, Senators Stevens and Inouye, for including a provision to exempt the power marketing administrations, such as Bonneville Power Administration. The entire electrical grid system in the Northwest depends upon the use of microwave communications to operate. We simply cannot afford to take a chance in moving to a less reliable frequency and I appreciate the sponsors of this bill working with me and recognizing this fact in their legislation.

Senator GORTON. With your permission, I do want to say here publicly that I agree with the new Secretary of Commerce, and I guess with former Secretaries of Commerce with respect to auctions. This bill makes a major step forward in allowing up to 30 megahertz to be auctioned. My own view is that that should be much broader, and I find myself in agreement with Secretary Brown on that subject.

Since I have not been here for the entire period of time, I am told there was one question in which I am interested in that I would like to direct to Mr. Perry, and it has to do with his business. Why should cellular carriers be able to apply for a PCS license in the markets they are already serving? Is there something about those frequencies that are different or better or competitive or noncompetitive?

Mr. PERRY. Well, unlike the rest of the world, when they introduced their digital systems they were not backward compatible to the existing analog base. The United States took a different tack. It said that it was not going to disenfranchise any of the existing analog subscribers as it moved forward into digital.

So, a great portion of our existing 25 megahertz is going to be utilized all the way out into the future serving the existing 11 million subscribers that we have on the analog system. So, therefore, we have capacity needs as you look out toward use of the PCS in many markets that will require us to have the need for additional spectrum.

There is also the issue of new services, when it comes to data, broadband, different types of services that are very different than existing voice service. I do not think any of us envision PCS to be a replication of existing cellular systems. That is not, I think, what any of us see PCS to be.

It is a panoply of new services, some of which are voice, a lot of which are data. Those systems will be new, and we would like to be there and help provide those services, using our existing infrastructure to lower the cost to the consumer. And we think that is something that is very useful, and it is procompetitive, provided there are enough licensees in each market, which is something we strongly recommend.

Senator GORTON. Does any other member of the panel have any comment on that subject?

Mr. FOOSANER. I would support Mr. Perry on the final point, which also goes to the rural community discussion. There must be small license areas with multiple providers in each area to accomplish the goals that have been stated by the Senators to this panel. Without that, I do not think you can accomplish what you are looking to with this bill.

Mr. NELSON. I guess I would comment, Senator, if I could, that many of the members of the Rural Telephone Coalition organizations are participants in cellular operations within their service areas. And we certainly would want to do everything we could to ensure that that did not preclude us from participating in the provision of the personal communication services.

Senator GORTON. Thank you, Mr. Chairman.

Senator INOUYE. Thank you, Senator.

I would like to thank all of you especially for working so closely with the staff. The measure you see before us is the product of that close coordination and cooperation. I am certain you have a sense from the questions that this committee is prepared to move expeditiously.

However, none of us want to make mistakes, so I will keep the record open for 2 more weeks, and during that time, may I once again request that you continue working with the staff to work out the kinks, if you see any. Because we would like to move along with this measure and make this law.

And so, once again, thank you all for not only appearing here today, but working with us as we have progressed from last year. This is going to be passed by the Senate, I can assure you.

Thank you very much.

[Whereupon, at 11:55 a.m., the hearing was adjourned.]

APPENDIX

PREPARED STATEMENT OF THE ASSOCIATION OF AMERICAN RAILROADS

I. INTRODUCTION

AAR is a voluntary, non-profit organization composed of member railroad companies operating in the United States, Canada and Mexico. AAR's member railroads are major users of communications systems licensed by the Federal Communications Commission ("FCC" or the "Commission"), including private land mobile radio facilities and private fixed microwave facilities. The AAR is the joint representative and agent of these railroads in connection with federal regulatory matters of common concern to the industry as a whole, including matters pertaining to regulation of communications. in addition, AAR functions as the frequency coordinator with respect to operation of land mobile and other radio-based services.

The railroads' communications systems have long been critical to railroad operations and to providing efficient and safe railroad service to the public. Because of the railroads' special communications requirements, the FCC established in the late 1940s the Railroad Radio Service (Section 90.91 of the Commission's Rules), pursuant to which railroads' radio-based facilities are licensed. Railroads are major users of land mobile communications on spectrum below 470 MHz. Railroads use frequencies in the 900 MHz band for a nationwide automatic vehicle monitoring system and a nationwide interconnected Advanced Train Control System. Other real-time operational and safety functions, such as remote control switching of tracks and relay-of telemetry data from trackside defect detectors, are performed by private fixed microwave systems operating on 2 GHz, 6 GHz and other frequency bands.

Given the railroad's extensive use of radio-based telecommunications equipment and services, AAR has been involved actively in spectrum proceedings before the FCC and the National Telecommunications and Information Administration ("NTIA"), including the FCC's rulemaking proceeding to reallocate 2 GHz fixed microwave frequencies for emerging technologies (ET Docket 92-9). In addition, AAR has followed House and Senate action on the "Emerging Telecommunications Technologies Act" in the 101st and 102 Congresses. In June 1992, AAR filed comments with the Senate Committee on Commerce, Science and Transportation regarding the spectrum auction plan then proposed as an amendment to S. 218 by Communications Subcommittee Chairman Inouye and Senator Stevens.

II. AAR SUPPORTS REALLOCATION OF FEDERAL SPECTRUM

AAR supports the primary objective of S. 335—reallocating federal government spectrum in order to make additional spectrum available for emerging technologies. In the past year, the FCC's controversial proposal to reallocate the commercial 2 GHz band for emerging technologies, including personal communications services ("PCS"), has underscored the urgent need for liberating federal government spectrum. Virtually all parties to the FCC proceeding agree that the goal of rapidly deploying PCS and other emerging technologies would be greatly advanced if liberated federal spectrum were made available either to PCS licensees or microwave licensees displaced from the 2 GHz band under the Commission's reallocation plan.

AAR believes that S. 335 provides the Commission with sufficient flexibility to assign reallocated federal government spectrum to emerging technology licensees or existing licensees displaced by new services. Such assignment would be wholly appropriate under S. 335 and would further the goals of this legislation. During floor debate in the House of Representatives prior to passage of H.R. 707, the companion to S. 335, a colloquy established that the "Emerging Telecommunications Technologies Act" provides the FCC flexibility in assigning liberated spectrum to facilitate rapid deployment of emerging technologies. See Cong. Rec. H940, March 2, 1993 (statements of Representatives Oxley and Markey).

Federal spectrum between 1710-1850 MHz is one candidate band for immediate assignment to PCS licensees or displaced 2 GHz licensees. In the FCC's 2 GHz proceeding, PCS proponents claimed that the 1710-1850 MHz band is technically suitable for PCS and compatible with worldwide allocations for mobile services. Moreover, AAR and other existing 2 GHz licensees believe that the 1710-1850 MHz band offers significantly greater potential as a relocation band than any of the higher bands the Commission proposed for relocation in ET Docket 92-9. The 1710-1850 MHz band is technically more similar to the adjacent commercial 2 GHz band than the higher bands and would require a much less burdensome and less costly relocation. Accordingly, the Commission would promote rapid deployment of emerging technologies by assigning frequencies from this band to either PCS or displaced microwave licensees.

III. RAILROAD LICENSEES FALL WITHIN EXEMPTIONS FROM COMPETITIVE BIDDING

In comments filed with the Committee on Commerce, Science and Transportation in June 1992, AAR concluded that the Inouye-Stevens 1992 spectrum auction proposal exempted from competitive bidding the assignment of any license for operation in the Railroad Radio Service. Licensees in the Railroad Radio Service were included under the exemptions for "private radio end-user licenses," "public safety," and the general "public interest" exemption. Because S. 335 contains the same exemptions as the 1992 auction proposal,[1] AAR adheres to its view that competitive bidding will not apply to any railroad license application.

A. Public Safety Exemption

Subsection (4)(C) of the spectrum auction provision in S. 335 exempts "public safety services" from grant of licenses through competitive bidding. This exemption is consistent with Section 151 of the Communications Act of 1934, as amended, which directs the FCC to "[promote] safety of life and property through the use of wire and radio communication.[2] Because of the long-recognized public safety aspect of railroads' communications' operations, AAR interprets Subsection (4)(C) as exempting all licenses authorized pursuant to the Railroad Radio service.[3]

The Commission has long recognized that the railroads' radio operations contribute to the safety of life and property.[4] For example, at the general allocation hearings for land transportation radio services, held in 1944, the Commission determined that there is a "purely safety aspect" to railroad radio communications for main-line end-to-end and wayside point-to-train communications. The Commission stated that:

> a properly engineered railroad radio service would contribute to the safety of life and property, both in preventing rail accidents and in reducing the seriousness of injury and damage after accidents, by permitting the prompt summoning of aid * * *[5]

Since that time, the railroads have developed a sophisticated communications network that has made the U.S. rail system among the safest in the world. Specific railroad uses of communications facilities for public safety functions include remote control of switches and signals, relay of telemetry data from trackside defect detectors, data links for wayside equipment, as well as voice and data communications among engineers, dispatchers, switch crews, yard masters, technicians and maintenance crews.

In 1982, Congress amended the Communications Act to require that "[i]n taking actions to manage the spectrum to be made available for use by the private land mobile services, the Commission shall consider, consistent with Section 151 of this

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[1] Like the 1992 auction proposal, S. 335 also exempts all license "renewals and modifications" in addition to the specific exemptions covering railroad licensees.

[2] 47 U.S.C. § 151.

[3] While "public safety" is sometimes used generically to describe state and local government operations such as police, fire and ambulance, the "public safety services" exemption in the auction proposal does not contemplate that narrow definition. Indeed, a separate exemption, (4)(B), covers all federal, state and local government licensees. The "public safety services" exemption thus appears to encompass all nongovernment entities, including the railroads, whose operations have recognized public safety aspects.

[4] See General Mobile Radio Service, 13 FCC 1190, 1199-1200 (1949); Frequency Allocation, Nongovernment, 39 FCC 68, 140 (1945).

[5] 13 FCC at 1199-1200. In licensing unattended stations in railroad radio operations in 1966, the Commission determined that the public interest, convenience and necessity is served by improving the safety and efficiency of railroad operations. Amendment of Part 93, Subpart H, Railroad Radio Service, Section 93.357, of the Commission's Rules to Provide for the Licensing on a Regular Basis, of Unattended Stations Used in Conjunction with Right-of-Way Safety Inspection Devices, 5 FCC 2d 842, 843 (1966).

title, whether such actions will (1) promote the safety of life and property. * * *"[6] In light of this statutory mandate and the long-recognized public safety aspect of railroad operations, exemption of the railroads from competitive bidding would be consistent with the Communications Act.

B. Private Radio End-User Exemption

Subsection (4)(D) of the auction provision in S. 335 exempts "private radio end-user licenses" from being granted through competitive bidding procedures. The railroads operate private radio systems, both mobile and fixed. The mobile systems are licensed pursuant to Part 90 of the Commission's Rules, which govern "Private Radio Land Mobile Services," and the fixed systems are licensed under Part 94 of the Commission's Rules, which applies to the "Private Operational Fixed Service."[7] Unlike some private radio services licensed under Part 90 (such as Specialized Mobile Radio ("SMR") service), the railroads do not use their systems to provide communications services to others on a commercial basis. Instead, the railroads use their licensed systems for "internal" communications in support of their own operations and are, therefore, the "end users" of the communications systems for which they hold licenses.[8] Accordingly, AAR interprets the "end user" exemption of Subsection (4)(D) to apply to the railroads' private radio licenses.

C. Public Interest Exemption

Subsection (11)(C) of Section 2 of S. 335 ("Findings") states that competitive bidding should not apply to "certain services governed by public interest regulations."[9] AAR interprets this Subsection as exempting the railroads from competitive bidding.

The railroads are common carriers required by the Interstate Commerce Act to operate in the public interest, convenience and necessity.[10] In addition to their common carrier obligations, railroads must comply with numerous federal and state safety requirements.[11] As discussed above, the many safety-related functions of railroads' communications systems facilitate their compliance with these safety requirements. Because of these statutory obligations, the railroads fall within the exemption for services "governed by public interest regulations."

IV. DISPLACED 2 GHZ LICENSEES SHOULD NOT BE SUBJECT TO COMPETITIVE BIDDING IN SEEKING RELOCATION SPECTRUM

AAR believes that fixed microwave licensees displaced fromthe 2 GHz band as a result of the FCC's ET Docket 92-9 also should be exempt from competitive bidding when seeking relocation spectrum. It would be unfair to displace railroads and other critical industries from the 2 GHz band and then require them to engage in competitive bidding when seeking new spectrum for their private microwave operations. As currently drafted, such displaced licensees appear to fall within Subsection (4)(E) of the competitive bidding provision of S. 335—"any license grant to a non-Federal licensee being moved from its current frequency assignment to a different one by the Commission in order to implement the goals and objectives underlying the Emerging Telecommunications Technologies Act of 1993." If there is any disagreement about whether this exemption includes private fixed microwave licensees displaced from the 2 GHz band as a result of ET Docket 92-9, then AAR supports a separate Subsection explicitly exempting such displaced 2 GHz microwave licensees.

V. AAR HAS CONCERNS ABOUT COMPETITIVE BIDDING

AAR has no objection to the competitive bidding provision of S. 335 as currently drafted to the extent it exempts any railroad license application from spectrum auctions. AAR has concerns, however, about competitive bidding in general. Despite their potential to raise revenue and expedite license assignments, spectrum auctions also present potential problems. First, auctions could result in industry players with "deep pockets" capturing all the valuable spectrum while small and minority businesses are left behind. Second, auctions could preclude adequate consideration of

[6] 47 U.S.C. § 332(2).

[7] License eligibility under Part 94 is determined by eligibility under Part 90. See 47 C.F.R. § 94.5.

[8] In contrast, SMR licensees offer service to others on a commercial basis, and the FCC has required that both the SMR operator and the end user obtain a license. See 47 C.F.R. §§ 90.651, 90.655.

[9] Subsection (4)(F) of the competitive bidding provision of S. 335 authorizes the Commission to exempt "any other service, class of services, or assignments" that it determines should be exempt because of "public interest factors."

[10] See Interstate Commerce Act, 49 U.S.C. § 10101 et seq.

[11] See 49 U.S.C. § 421 et seq.

whether applicants' attributes and service proposals are in the public interest. Third, auctions could thwart universal service because licensees would have little incentive to deploy new services in rural and other less lucrative markets.

Even services that are exempt from competitive bidding, such as the Railroad Radio Service, may suffer if the Commission's allocation decisions become driven by a desire to raise revenue. The Commission may allocate the most valuable spectrum to services subject to competitive bidding, leaving exempt services with insufficient or undesirable frequencies.

AAR is eager to review the auction proposals being formulated by NTIA and the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce. AAR understands that these proposals may provide broader auction authority than under S. 335. AAR hopes to work with the Congress and the Administration to ensure that the FCC license assignment procedure enables the railroads to maintain their communications systems that are critical to providing efficient, safe and reliable rail service.

VI. CONCLUSION

AAR supports reallocation of federal government spectrum in order to facilitate deployment of emerging technologies. S. 335 provides the FCC sufficient flexibility to assign liberated federal government spectrum to emerging technologies or licensees displaced from their current assignments in order to make way for emerging technologies.

AAR has no objection to the spectrum auction provision of S. 335 to the extent it exempts the Railroad Radio Service from competitive bidding. Railroad licensees fall within the exemptions for "public safety," "private radio end-user licensees," and the general "public interest" exemption. It may be appropriate to require competitive bidding for entities that make a profit from spectrum by offering radio-based services for resale or profit, but entities that are merely end-users of spectrum and require radio communications to ensure safe and efficient operations should remain exempt from competitive bidding. AAR also believes that any licensee displaced from its current assignment as a result of FCC action to promote emerging technologies should not be subject to competitive bidding when seeking relocation spectrum.

PREPARED STATEMENT OF JAMES H. BAKER, EXECUTIVE VICE PRESIDENT, FOREST INDUSTRIES TELECOMMUNICATIONS

On behalf of Forest Industries Telecommunications (FIT) I welcome the opportunity to submit comments for the record on S. 335, the "Emerging Telecommunications Technologies Act of 1993." I also thank you for keeping the record open for an additional 2 weeks to enable FIT and possible other interested parties to file comments. The proposed legislation would require the Federal Government to release 200 MHz of spectrum to the Federal Communications Commission and would authorize the latter to conduct a test of the use of competitive bidding for licenses that involved the use of radio frequency spectrum. The interest of FIT in S. 335 concerns the proposed use of competitive bidding.

FIT is a nonprofit national trade association, headquartered in Eugene, OR. Its 2,000 members are engaged in logging and the manufacturing of products dependent upon wood as a resource, e.g., all forms of paper, plywood, and lumber products generally. Members of FIT are extensive users of private land mobile radio communications for safety and efficiency of their operations. Logging is usually done in remote and mountainous locations where safety considerations are a paramount concern. Generally mobile radio communications must be relied upon not only for logging operations on site but also for contact outside the areas of logging. Mobile radio is used by truckers hauling logs and for communications with and within sawmills and lumberyards.

For over 45 years FIT has been recognized by the FCC as the frequency coordination authority for the Forest Products Radio Service. FIT serves as its members' spokesman on matters pertaining to radio communications in the forest products industry. Membership in FIT ranges from industry giants such as Weyerhaeuser Company and Boise Cascade Corporation to small family owned and operated businesses.

FIT is supportive of the efforts of the subcommittee and the bill's sponsors in seeking means to improve the management of the Nation's spectrum resources. FIT notes the findings listed in section 2 of S. 335 regarding "current spectrum assignments procedures, comparative lotteries and lotteries can be expensive and time consuming, can strain the limited resources of the Federal Communications Commission * * *"

FIT notes the term "competitive bidding" is used in lieu of the term "spectrum auctions" in the text of S. 335. For the past several years, FIT has opposed vigorously the concept of "spectrum auctions" as not being in the public interest for many reasons. Further "spectrum auctions" carry a connotation of "spectrum" being "sold" and therefore passing out of the regulatory control of the FCC. In the view of FIT, "spectrum auctions" would be unrealistic due to the international nature of much of spectrum usage and the complexity of radio telecommunications usage in the U.S.A.

Noting the foregoing, FIT is very concerned that under S. 335 most of its members could become victims of unfair competition in the competitive bidding process. While the bill exempts several categories with safety related services, e.g., amateur, public safety, aeronautical, and maritime, it does not go far enough to protect small users who depend upon radio for the safe and efficient conduct of their businesses. In the future competition for spectrum, small users in particular must be assured access to the spectrum needed by them.

Before S. 335 is reported out of your subcommittee, provisions for the use of competitive bidding by the FCC should be studied with the aim of including details on how the concept would be implemented. FIT understands the objectives of S. 335 but urges that provisions by added to assure fairness to all citizens desiring to use radio communications in the conduct of their businesses.

The interest of the Congress in encouraging new telecommunications technologies is applauded. FIT is prepared to work with you and the subcommittee staff to develop a bill that would achieve the goals intended by the Congress through legislation along the lines of S. 335.

PREPARED STATEMENT OF PCS ACTION, INC.

PCS Action, Inc. is pleased to comment upon S. 335. This legislation seeks to reassign for commercial use spectrum previously reserved for the government. Further, it seeks to give the FCC the authority to conduct auctions for the specific assignment of spectrum licenses. The original interest of this Committee in drafting S. 335 was to provide for the rapid deployment of new technologies and to encourage the technical innovation made possible by increased spectrum availability. In that context auctions were seen as an experiment to more rapidly issue licenses with a minimum of administrative and legal complications. We strongly support those goals.

This legislation, however, will have to expand in response to federal budget demands. The proposed Clinton Administration budget anticipates spectrum auctions producing $7.2 billion in revenue in five years. As a practical matter, most of this sum will not come from the spectrum reassigned by S. 335. Rather, it appears as if the bulk of the revenues produced from special auctions will come from the pockets of those who seek the deployment of personal communications services or "PCS". Since we believe and hope that those will, in part, be our pockets, our concern is with ensuring that the expanded auction process continues to support the original goals of this Committees commitment to technical innovation and rapid deployment. We will in this statement outline the concepts that we believe are essential safeguards to ensure the fairness of any spectrum auction and to ensure the implementation of PCS.

It is important to note, however, that we do not favor spectrum auctions for PCS. Auctions have never previously been implemented by the FCC for the allocation of spectrum. Consequently, delay will necessarily result and jeopardize the benefits of rapid deployment of PCS. The FCC will be required to develop a set of complex regulations and resolve contentious legal and economic issues that may well result in extended litigation.

Moreover, wireless spectrum has previously been allocated by lottery or comparative nearing to incumbent competitive service providers. it creates serious inequities in some circumstances to require new participants to pay for spectrum when the government previously allocated spectrum free of charge. In this regard, auctions may not provide for a level --competitive playing field.

However, auctions seem to be the choice favored by Congress and the Administration and our comments will concentrate on the issues necessary to make auctions work fairly and effectively.

SUMMARY OF COMMENTS

The key budgetary issue is that any retarding of the timing and scope of PCS will necessarily lessen its value and consequently reduce the revenues raised through auctions. We therefore believe that our interest in rapid and effectual deployment is generally consistent with the government's interest in maximizing revenues. If

the wrong choices are made, not only will the future of PCS be jeopardized, but the government's revenues from the auctions will be reduced.

PCS Action's key recommendations on S. 335, in brief, are:

1. If a wider band of spectrum subject to auction also encompasses PCS, we strongly recommend that S. 335 be amended to specify that at least 40 MHz of spectrum be assigned for each PCS licensee.
2. S. 335 should mandate large license areas no smaller than Major Trading Areas ("MTA").
3. The legislation should also specify that two, and certainly no more than three, PCS allotments are created in each PCS market.
4. The FCC should be required to ensure that PCS is a competitive service providing diversity in wireless communications.
5. The bill should not mandate a minimum bid requirement.
6. The legislation should require the FCC to complete its rulemaking on auction proceedings within 180 days of enactment.

PCS ACTION

PCS Action is a new coalition of companies promoting the rapid, large-scale deployment of PCS services. The member companies comprise competitors, companies from different locations in the United States, of different sizes and from different sectors of the American economy, manufacturers and leaders in different technologies such as cable, cellular, and print media. They have joined together to seek the rapid licensing and commercial introduction of licensed PCS for the public benefit.

The members of PCS Action at this time are:

- American Personal Communications/Washington Post Co.
- Associated PCN Company
- Cox Enterprises, Inc.
- Crown Media
- Northern Telecom
- Omnipoint Communications,, Inc.
- Providence Journal Co.
- QUALCOMM Inc.
- Times Mirror Cable Television, Inc.
- Time Warner Telecommunications

PERSONAL COMMUNICATIONS SERVICES OR "PCS"

PCS stands for Personal Communications Services. PCS is a family of digital, high capacity, telecommunications services that offer affordable mobile communications of both data and voice.

Because they are designed to enable people or devices to communicate independent of any fixed location, PCS allow people to communicate anytime and virtually anywhere. Consumer and business applications include low cost mobile telephony services using pocket sized handsets, wireless PBX and computer networks, and mobile transmissions of information to and from laptop computers, palm tops, and electronic organizers, special applications for education, health care, and security use are also part of the PCS potential.

The PCS industry is ready now to offer a family of low cost personal communication services. PCS, if promptly and properly licensed, can generate close to $200 billion in new commercial activity by the end of the next decade and create more than 300,000 good new American jobs. Deployment of this new technology and the generation of new jobs and commercial activity depends upon government action, i.e., the issuance of commercial PCS licenses.

By bringing more services to more people at lower cost, PCS will have a broad and favorable impact on American families and businesses. The introduction of these services in a viable manner will further develop the telecommunications infrastructure in this country. PCS will provide a variety of new voice and data products and services that will provide wide access to new technologies to all segments of our society. These new services will also provide vigorous competition to the cellular telephone industry. It will also lessen the gap between the information "haves" and the information "have nots." Entrepreneurs will benefit immensely from having PCS licensed services available, and PCS will also provide for locally-controlled and locally-developed end user services. Finally, the rapid implementation of licensed PCS will place the U.S. in a very favorable position to promote new products and services throughout the world and improve our balance of international trade.

THE COMPETITIVE BIDDING PROVISIONS OF S. 335

S. 335 proposes instituting a competitive bidding process for the reallocation of spectrum currently reserved for federal government use. It has been our assumption that this process will extend to other FCC allocations of spectrum for wireless services. The portion of the bill of greatest concern to PCS Action members is Section 8, which contains the competitive bidding provisions. It calls for a three-year trial period for auctions for a limited amount of spectrum. This provision of the bill is likely to be amended to give the FCC authority to auction a wider band of spectrum than 30 MHz.

THE 40 MHZ ISSUE

If a wider band of spectrum subject to auction also encompasses PCS, we strongly recommend that S. 335 be amended to specify that at least 40 MHz of spectrum be assigned for each PCS licensee. The allocation of at least 40 MHz of spectrum for each licensee is essential both for the development and successful implementation of PCS technology and for the financial viability of the auction itself. Anything less will cripple the deployment of PCS and jeopardize the public interest.

Sufficient spectrum is critical to the effectual deployment of PCS. PCS, unlike other services, will share the spectrum band with thousands of microwave users. Some of these may be reassigned over time, but some will not. Public safety incumbents will be permanent co-residents with PCS licensees. Consequently, 40 MHz of spectrum per licensee is needed to allow PCS licensees to accommodate the needs of existing microwave users with whom they will be sharing spectrum. Too little spectrum will leave little flexibility to accommodate existing licensees, such as utilities, railroads, and public safety organizations. Moreover, because of the technical characteristics of microwave systems, 40 MHz allotments for PCS will facilitate coexistence between PCS and microwave during a transition period.

If smaller blocks of spectrum are auctioned, the field of potential bidders will be limited to those who can combine these insufficient spectrum blocks with existing spectrum—that is, the two cellular licensees in each market. Smaller blocks would also preclude PCS from offering vitally important high speed data services. This would not only minimize the field of bidders, and thus minimize federal revenues, but would cut out the very entrepreneurs and new entrants that are promoting the rapid deployment of PCS in this country. Existing users will have little incentive to build full-fledged PCS systems and grow a broad, vital PCS industry, and the public will ultimately lose out.

The specific nature of a spectrum license has traditionally been within the discretion of the FCC. We believe that in this case it is important to direct the FCC to adopt 40 MHz to ensure the value of the license for auction purposes. However, if the Congress decides not to give specific directions to the ECC in this regard, we believe it is critical to make sure that the FCC retains the discretion to assign the license band, including a possible 40 MHz per licensee.

MARKET SIZE

Congress has embraced two important goals in structuring this legislation—inclusion of minorities, small business, and rural entities; and raising revenue. These multiple goals cannot be met by imposing unrealistically small licensing areas on the PCS industry. PCS licenses should be awarded on the basis of large markets no smaller than major trading areas ("MTA"), as defined by Rand McNally.

PCS can succeed only if it is able to realize the economies of scale that have proved necessary in the existing industries. For example, the FCC licensed 734 cellular service areas, but now nine cellular companies control 90 percent of the country's population. The cellular industry has become concentrated in large, regional service areas that are similar to major trading areas in scope. PCS cannot provide the effective price competition Congress desires if PCS is marginalized in tiny, ineffective licensing areas. The advocates of this fractionalized licensing scheme know full well that small licensing areas will render PCS ineffective as a competitor. PCS licensing should be implemented in large areas no smaller than MTAs.

Realistic market size is important for raising revenue as well. Small, isolated markets will not garner significant bids. Moreover, the PCS industry knows at the outset that regional service areas will be necessary for PCS to be provided across the country; bids for all PCS areas would be depressed if bidders knew at the outset that a second private auction would be necessary to combine these small licensing areas into realistic, regional service areas. Using tiny licensing areas will produce a second, private auction, much like was produced by the lottery legislation of the early 1980s. Speculators would be encouraged to "buy low" from the government and

"sell high" to PCS companies. The very rural and minority entities whose participation is sought to be fostered by this type of plan would be squeezed out entirely. The significant costs required by a second, private auction would be borne by American consumers and forever lost to the Treasury.

The auction process for PCS should ensure minority and rural telephone company participation without sacrificing the critical competitive need for sufficient spectrum band, size of license area, and number of licenses per market. Smaller licensing areas create the danger that all PCS providers, including minorities and rural telcos1 will be unable to compete effectively against large, regional cellular carriers, creating a series of standalone markets that will be uneconomic for any entity to serve.

Because smaller service areas will marginalize the value of PCS regardless of the identity of the licensee, auction legislation should craft meaningful opportunities for minority and rural telco participation in PCS by mandating large market areas.

We support these social goals and are committed to work with Congress and the FCC to further develop these issues.

TWO, AND NO MORE THAN THREE, LICENSES

The legislation should also specify that two, and certainly no more than three, PCS allotments are created in each PCS market. Landline, cellular, SMR and other mobile service providers exist today and will compete in each market with future PCS providers. If too many PCS licenses per market are auctioned, the potential market share of any one PCS license would be very small (compared to the large capital costs necessary to construct a PCS system) and the chances for that licensee to succeed against entrenched cellular operators and other competitors would be minimal. Bidders would place a very low value on such licenses, and bids would be depressed.

The experience in the United Kingdom, where there are spectrum allocations with no takers, demonstrates that authorizing too many licenses diminishes the revenues that can be realized through an auction, as well as making it unlikely that a viable PCS industry will emerge. The only bidders that would have any incentive to participate in such an auction would be entrenched competitors, which could combine a small license with cellular's current 25 MHz of clear spectrum. Once again, little revenue would be generated from an auction in which only two bidders had a motivation to participate, and, once again, those bidders would have little incentive to grow an effective PCS industry if they attained small-scale PCS licenses.

The Congress should mandate these PCS allotments and, at a minimum, not prohibit the FCC from exercising its discretion. We believe that this issue, like the 40 MHz issue, will define the value of the license. If the FCC is directed to assign more than three licensees, the value of any license will be greatly reduced. This reduction in the value of the license will in turn result in shortfalls in the auction revenues to be collected.

DIVERSITY & COMPETITION

S. 335 has minimal eligibility requirements for potential bidders. Potential bidders would be required to file an initial eligibility application with the FCC and a follow-up application. The applications would contain "such other information as the Commission finds necessary," leaving the FCC some discretion to determine eligibility requirements.

To the extent that auctions are intended to more efficiently achieve the goals of comparative hearings, the Congress and the FCC will want to ensure competition and diversity among the ranks of PCS providers. Small businesses, minority-owned enterprises, and rural telephone companies should be given an opportunity to participate in PCS. To ensure the rapid deployment of new spectrum-based technologies by a diverse group of qualified licensees, Congress and the FCC must take steps that will increase (not decrease) competition.

The fact is that the public and the U.S. economy will benefit from the granting of new radio spectrum licenses only if the licensing process facilitates the rapid and effectual introduction of new spectrum-based technologies. Some parties, however, have interests adverse to the rapid deployment of new mobile services in their market areas. The Congress and the FCC must guard against warehousing of spectrum, i.e., the acquisition of spectrum merely to deny it to competitors and competitive technologies.

S. 335 would also authorize the FCC to waive the competitive bidding requirement on a case-by-case basis. We believe that the FCC should continue to have the discretion to assign licenses outside of the auction process in order to promote tech-

nology, innovation, and small business interests as it has in several categories in the last several years.

BIDDING PROCEDURES

S. 335 requires the FCC to promulgate rules to implement the bidding process. The rules would have to establish a minimum bid, a method of bidding, and a method of payment, and any other conditions that serve the public interest. PCS Action agrees with S. 335 that the FCC should have the discretion to determine a method of bidding and a method of payment. PCS Action, however, does not recommend that the bill's minimum bid requirement be mandated by law.

The need for a minimum bid requirement should remain in the FCC's discretion. While the agency may wish to establish bidding guidelines, the FCC may decide that a minimum bid requirement is contrary to rapid implementation of PCS. If the market does not respond to the level set by Federal appraisals, then the answer may very well be that keeping the allocated spectrum out of the market is not in the public interest.

Equally important, if auctions are to work they must be able to respond to market demands, including low and high prices. To require an arbitrary minimum will create regulatory complexity and will threaten to delay the implementation of PCS. Each assignment area may require a different minimum and inevitably the FCC will have to appraise the value of each market. These appraisals will be challenged and litigated, creating administrative and judicial delays. This is what auctions were supposed to avoid.

Similarly, the FCC should maintain the discretion to establish terms for the length or PCS licenses. FCC discretion should be consistent with FCC treatment of other mobile service licenses (10 years), with an expectation of renewal similar to cellular and other wireless services.

EXPEDITED FCC RULEMAKING

To ensure that the auction requirement does not delay the deployment of PCS, the FCC should be required to complete its rulemaking on auction proceedings within 180 days of enactment of the legislation. The FCC has already commenced several related rulemakings in PCS. Six months from the date of enactment should be sufficient for the consideration of these matters.

CONCLUSION

PCS Action supports the efforts of this Committee to ensure the rapid implementation of PCS. The use of auctions raises many difficult issues. However, auctions, if implemented, should be done with a great deal of care and with the use of safeguards to assure the success of PCS.

PREPARED STATEMENT OF RONNIE RAND, EXECUTIVE DIRECTOR, ASSOCIATED PUBLIC-SAFETY COMMUNICATIONS OFFICERS, INC.

My name is Ronnie Rand. I am the Executive Director of Associated Public-Safety Communications Officers, Inc. ("APCO"), the nation's largest and oldest public safety communications organization. APCO's nearly 10,000 members are involved in the management and operation of radio communications systems for police, fire, local government, emergency medical, forestry conservation, highway maintenance, and other public safety services. Until last August, I was the President of APCO, and had served for 16 years as Manager of the Office of Emergency Services for the City of Little Rock, Arkansas.

Representatives of APCO have testified on numerous occasions in support of legislation to require the Federal government to release valuable radio spectrum for reallocation to state and local government public safety agencies.[1] We hope that, this year, such legislation will finally be enacted, and that our testimony on this issue will no longer be necessary.

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[1] See, e.g., Testimony of Chief William Bratton before the House Subcommittee on Telecommunications and Finance Regarding H.R. 531 (February 21, 1991); Testimony of Sheriff Sherman Block before the House Subcommittee on Telecommunications and Finance Regarding H.R. 531 (March 12, 1991); Testimony of John W. Carmody before the Senate Subcommittee on Communications Regarding S.218 (April 11, 1991); Testimony of Ronnie Rand before the House Subcommittee on Telecommunications and Finance Regarding H.R. 707 (February 4, 1993).

APCO OPPOSES AUCTIONS

While we support the basic goal of S. 335 to release Federal Government spectrum for other uses, we strongly oppose those provisions of the bill that would allow radio spectrum to be assigned through competitive bidding. APCO has and continues to oppose auctions, even if there are provisions to exempt radio frequencies allocated for public safety.

The availability of auctions as an assignment and revenue raising mechanism would create further incentives to allocate less spectrum for public safety, and more spectrum for commercial uses for which auctions are permitted. Public safety is already at a disadvantage in the spectrum allocation process because of intense pressure from commercial interests for more and more radio spectrum, especially for various new technologies. An auction system would intensify that disadvantage by creating the potential to raise desperately needed revenue from commercial users.

Therefore, APCO opposes grant of any auction authority to the FCC, unless Congress prohibits use of auctions until after the Commission (1) re-evaluates current and future public safety spectrum needs, and (2) allocates sufficient radio spectrum to meet those needs. Otherwise, public safety needs will be swept aside to make room for revenue raising commercial services. Attached to this Statement our proposed amendments to S. 335 to address our concerns.

PUBLIC SAFETY AGENCIES NEED MORE RADIO SPECTRUM

Radio communication is an indispensable tool for police, fire, emergency medical, forestry conservation, highway maintenance and other public safety agencies. Without radio communications, it would be impossible for an ambulance, police cruiser or fire truck to arrive within minutes at an accident, crime scene or fire. Mobile and hand-held portable radios (and, increasingly, mobile data terminals) are critical for coordinating virtually every conceivable type of activity related to the protection of life and property. The general public and thousands of police officers, firefighters and other public safety personnel are placed in potentially life threatening situations every day that require rapid, interference free mobile and portable radio communications.

Public safety agencies' demand for radio communications is growing dramatically. As population and population density increases, so does crime, the danger of uncontrolled fires, traffic congestion, emergency medical needs, and other threats to the safety of life and property. Unfortunately, state and local government public safety agencies are faced not only with growing demands for their services, but also with tightening budgets that stretch their manpower and facilities. The result is greatly increased reliance on radio communications, which, therefore, requires more and more dedicated public safety radio frequencies.

The current demand for public safety radio spectrum has far exceeded prior estimates. In 1985, the FCC released an extensive study projecting public safety needs through the year 2000.[2] The study estimated that, by 1992, there would be over 285,000 public safety radio stations.[3] In fact, as of November 1992, there were already 483,424 licensed public safety stations, 70 percent more than had been projected.[4] The commission's estimates also did not account for more recent public safety radio spectrum uses, such as mobile data terminals. APCO estimates that there are already nearly 300,000 licensed public safety mobile data terminals in use, and most jurisdictions have yet to acquire such equipment.

Future technologies now being developed will require even greater radio spectrum allocations for public safety. These technologies include the ability to transmit maps, criminal records, mug shots, finger prints, hazardous materials information, building diagrams and other similar data between base stations and mobile units in the field. Video also promises to be an important tool for public safety agencies, including video surveillance, on-scene coordination by fire and police departments, and record-keeping capability. So-called "smart highways" providing constant real-time traffic flow, road condition and accident information to public safety agencies will also require radio frequencies not currently available.

Unfortunately, current spectrum allocations are grossly insufficient to meet these growing public safety radio spectrum demands. There is already a serious shortage of public safety radio frequencies in major metropolitan areas such as New York and Los Angeles, placing dangerous constraints on public safety agencies. Similar shortages are just over the horizon for other parts of the country.

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[2] Future Public Safety Telecommunications Requirements, PR Docket 84-232, FCC 85-329 (released August 1, 1985).

[3] Id. at 50 (table 18) (excluding Special Emergency Service). See Table 1 attached hereto.

[4] See Tables 1 and 2 attached hereto.

The FCC's 1985 study of future public safety spectrum needs estimated that to meet the then anticipated demand, additional public safety frequency allocations of between 12.5 MHz and 44.6 MHz would be needed in the 21 largest metropolitan areas by the year 2000, even assuming the use of advanced spectrum efficient technology.[5] However, despite a Congressional mandate, the FCC never followed through on it study. Since the 1985 study, the FCC has allocated just 6 MHz nationwide for public safety (and an additional 6 MHz in the for the especially congested Los Angeles area). These allocations, while highly beneficial, did not even begin to satisfy the 1985 estimate of future public safety needs, let alone actual demand, which is well ahead of those 1985 estimates.

Therefore, public safety agencies need access to additional radio spectrum. Improvements in equipment technology (such as digital modulation) will alleviate some of the current shortages, but will fall far short or satisfying all of the critical current and future public safety needs. Similarly, the FCC recently initiated a "spectrum refarming" proceeding that may also lead to more efficient use of private land mobile spectrum (PR Docket 92-235). While APCO supports the Commission goals, we have serious reservations regarding many aspects of the Commission's current refarming proposal. Regardless of the final form of the Commission's spectrum "refarming" effort, however, it too will only solve a small portion of the spectrum shortages facing public safety agencies and other private land mobile radio users. The only way to alleviate these shortages is to allocate additional radio spectrum for public safety use.

APCO SUPPORTS THE BASIC GOALS OF THE EMERGING TELECOMMUNICATIONS TECHNOLOGIES ACT

The legislation now before this Committee would lead to the release of up to 200 MHz of radio spectrum now set aside for the Federal Government. APCO continues to believe that such a spectrum reallocation is critical if state and local government public safety agencies are to have the radio spectrum necessary to meet current and future demands.

APCO is particularly pleased that S. 335 includes findings regarding the impact of spectrum shortages on public safety, and provisions to insure public safety agency participation in spectrum planning and reallocation. These provisions accurately reflect the long-standing Congressional insistence that public safety be given fltop priority" in matters related to radio spectrum allocation and management.

As described above, our only major objection to S. 335 is its grant of auction authority to the FCC.

Please contact me should the Committee have any questions.

Appendix A—Projected Growth

[Based on Docket 84-232, Table 18]

Radio service	Projected 1990 stations	Projected percent growth	Percent growth to 10/92[1]	Projected stations 10/92
Local government	81,200	6.5/yr	11.69	90,695
Police	92,600	6.2/yr	11.14	102,915
Fire	48,700	6.1/yr	10.95	54,035
Highway maintenance	19,900	5.5/yr	9.85	21,860
Forestry conservation	13,900	6.7/yr	12.06	15,575
Total	250,700			285,080

[1] Projected "Annual Growth Rate" computed using annual compounding for 1.75 years (December 31, 1990, through September 23, 1992).

Table 2—Actual vs. Projected Growth

Radio service	Actual public safety band licenses[1]					Difference vs. table 1
	VHF Lo	VHF Hi	UHF	UHF-TV	Total	
Local government	8,640	46,551	21,407	3,036	79,634	−11,061
Police	16,215	44,322	19,148	30,391	110,076	+7,161
Fire	13,270	34,704	5,401	3,698	57,073	+3,038

[5] 1985 Study at 106 (table 37).

Table 2—Actual vs. Projected Growth—Continued

Radio service	Actual public safety band licenses[1]					Difference vs. table 1
	VHF Lo	VHF Hi	UHF	UHF-TV	Total	
Highway maintenance	13,108	20,864	1,709	7	35,688	+13,828
Forestry conservation	8,483	42,447	635		51,565	+35,590

[1] Number of transmitters from FCC license data base on 09/23/92; this count includes all stations of class Fmn (FB, FBn, FXn, etc.).

800 MHz Stations Not Included Above

800 MHz band	Conventional[1]	Trunked[1]	Total
806–821/851–866	7,817/4,335	84,920/ 9,083	106,155
821–824/866–869 National Plan	1,122/ 496	35,450/ 6,165	43,233
Total	8,939/4,831	120,370/15,248	149,388
Total, all bands			483,424

[1] Number of transmitters from FCC license data base on 09/23/92; this count includes all stations of class Fmn (FB, FBn, FXn, etc.).

BACKGROUND TO APCO'S PROPOSED AMENDMENTS TO S. 335

The current version of S. 335 includes provisions to allow the FCC to assign radio frequencies through auctions. APCO and other public safety communications groups oppose auctions as a frequency assignment mechanism, even if public safety radio services are exempt. APCO is concerned that the ability to use auctions to raise badly needed revenue would create a strong incentive to allocate more (and more desirable) radio spectrum to services subject to auctions, with little if any desirable spectrum being set aside for exempt public safety services.

Therefore, before the FCC assigns frequencies through auctions, it must be required by law to (1) determine current and future public safety spectrum needs, and (2) take steps to insure that spectrum will be available to satisfy those needs. Specific statutory provisions are necessary because, even without the problems created by auctions, the Commission has not adequately addressed public safety's frequency needs, in spite of its acknowledgement of those needs. A 1985 FCC staff study mandated by Congress projected that public safety agencies in the 21 largest metropolitan areas would need between 12.5 and 44.6 MHz of additional spectrum by the year 2000 (PR Docket 82-232). Despite the Congressional mandate, the full Commission itself never completed or responded to the staff study. Since 1985, the Commission has allocated just 6 MHz for public safety (with an additional 6 MHz allocated in the especially congested Los Angeles area). Yet, as of 1992, actual public safety spectrum use is running 70 percent ahead of the FCC's 1985 projections.

Specific proposed amendments to S. 335 are attached and described below:

1) Section 2. APCO proposes additional legislative "Findings" that competitive bidding must not prevent or discourage the allocation of radio spectrum to satisfy public safety needs.

2) Section 6. The current Section 6(b) (2) requires the FCC to ensure that frequencies are available for new technologies and services pursuant to Section 7 of the Communications Act. APCO's proposed amendment would simply add a requirement that frequencies be made available to "promote the safety of life and property" pursuant to Section 1 of the Act.

3) Section 8. APCO proposes the addition of a new subsection (d) to prohibit the use of competitive bidding to assign frequencies unless and until the FCC makes an affirmative finding that the frequencies are not needed to alleviate current or future public safety radio spectrum needs. To satisfy this condition, the FCC would be required to complete a study of current and future public safety spectrum needs and to develop a plan to satisfy those needs. To avoid delays, the deadline for completing this study would be prior to or concurrent with the FCC's deadline for establishing competitive bidding procedures (18 months from enactment of the Act).

PROPOSED AMENDMENTS TO S. 335

SECTION 2. FINDINGS

* * *

(10) competitive bidding should be structured to—

* * *

(E) insure that adequate radio spectrum continues to be allocated to public safety and other radio services not subject to competitive bidding;

(F) otherwise further the public interest;

(11) competitive bidding should apply only to the granting of new spectrum licenses and should not—

* * *

(F) prevent or discourage the allocation of radio spectrum to meet the current and future needs of public safety and other radio services not subject to competitive bidding.

SECTION 6. ALLOCATION AND ASSIGNMENT OF FREQUENCIES BY THE COMMISSION

* * *

(b) * * *

(2) contain appropriate provisions to ensure the availability of frequencies to promote safety of life and property in accordance with the policies of section 1 of the Act (47 U.S.C. 151) and for new technologies and services in accordance with the polices of section 7 of the Act (47 U.S.C. 157).

SECTION 8.

* * *

(d) CONDITIONS FOR APPLICATION OF COMPETITIVE BIDDING.—

(1) Notwithstanding any other provisions of this Act or other law, the Commission shall not use competitive bidding to assign any radio frequencies unless and until it makes an affirmative finding that the radio frequencies to be assigned by competitive bidding are not needed and should not be allocated instead to alleviate current or future radio spectrum shortages facing state and local government public safety agencies.

(2) In order to satisfy the conditions set forth in paragraph (1), the Commission shall

(A) complete and submit to Congress, not later than 18 months after the date of enactment of this Act, a study of current and future radio spectrum needs of state and local government public safety agencies through the year 2010, and a specific plan to satisfy those spectrum needs; and

(B) complete and submit to Congress periodic updates of the study referred to in paragraph (A), at intervals not, to exceed 3 years.

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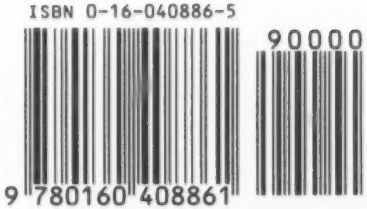
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